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ABSTRACT

This report presents the findings of a research study, conducted by the College of the Mainland (COM) as a subcontractor for Project FOLLOW-UP, designed to test the accuracy of random sampling and to measure non-response bias in mail surveys. In 1975, a computer-generated random sample of 500 students was drawn from a population of 1,256 students who had attended COM in the spring of 1972. A 48% response to a follow-up survey of the sample was achieved. A random subsample of 70 non-respondents was drawn and interviews were conducted with 56 who could be located as a validity check. A similar survey of spring 1973 students conducted in 1976 resulted in a 42% response rate and a random subsample of 78 non-respondents was drawn for interviewing. The total samples and total populations showed no significant differences on variables of age, sex, and GPA in either year. However, significant differences between mail-respondents and the total sample were found in terms of age and GPA (grade point average) but not sex in the first year, and in terms of GPA in the second year. Consistent differences were also found between mail-respondents and total populations and between the mail-respondents and interview samples. Sampling methods are reviewed, and causes and implications of non-response bias are discussed. Alternative bias correction methods are suggested. Study materials, survey instruments, and resultant data are appended. (JDS)

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FOLLOW-UP OF SPRING 1972 AND SPRING 1973 STUDENTS

BY

COLLEGE OF THE MAINLAND

TEXAS CITY, TEXAS

PROJECT FOLLOW-UP SUBCONTRACTS ARE SUPPORTED BY FUNDS FROM THE DIVISION OF OCCUPATIONAL RESEARCH AND DEVELOPMENT, DEPARTMENT OF OCCUPATIONAL AND TECHNICAL EDUCATION, TEXAS EDUCATION

AUGUST 1976

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PREFACE

THIS SUBCONTRACTED ACTIVITY IS ONE OF SEVEN IDNIVIDUAL SUBCONTRACTS ISSUED BY TARRANT COUNTY JUNIOR COLLEGE, PROJECT FOLLOW-UP, TO TEXAS PUBLIC COMMUNITY/JUNIOR COLLEGES AS PART OF A COORDINATED EFFORT TO DESIGN A STUDENT FOLLOW-UP MANAGEMENT INFORMATION SYSTEM. A LISTING OF THE SEVEN SUBCONTRACTORS AND PROPOSED ACTIVITIES FOLLOWS:

ALVIN JUNIOR COLLEGE ALVIN, TEXAS	ORIENTATION AND EXIT INTERVIEWS. DROP-OUTS AND NON-RETURNEES.
AMARILLO COLLEGE AMARILLO, TEXAS	EMPLOYER FOLLOW-UP (GRADUATES).
COLLEGE OF THE MAINLAND TEXAS CITY, TEXAS	REPRESENTATIVE SAMPLING.
DEL MAR COLLEGE CORPUS CHRISTI, TEXAS	FOLLOW-UP INSTRUMENTATION AND METHODOLOGY;ACADEMIC AND VOC-TECH GRADUATE FOLLOW-UP;MANUAL VS. MACHINE PROCESSING.
SAN ANTONIO JUNIOR COLLEGE SAN ANTONIO, TEXAS	ACADEMIC AND VOC-TECH GRADUATE FOLLOW-UP;ORIENTATION AND CONDITIONING;STUDENT DATA BASE; FOLLOW-UP INSTRUMENTATION AND METHODOLOGY.
WESTERN TEXAS COLLEGE SNYDER, TEXAS	STUDENT DATA BASE (STUDENT FLOW AND FOLLOW-UP);MANUAL VS. MACHINE PROCESSING.
NAVARRO COLLEGE CORSICANA, TEXAS	FOLLOW-UP COST MANHOUR STUDY.

THIS DOCUMENT REPRESENTS ACTIVITIES CONDUCTED DURING A TWO-SEQUENCE SUBCONTRACTOR PROJECT PHASE. THE PERIOD COVERED BEGAN DECEMBER 15, 1974 AND ENDED JUNE 30, 1976.

HISTORY OF PROJECT FOLLOW-UP

PROJECT FOLLOW-UP IS ACTUALLY A RESULT OF RECOMMENDATIONS BY THE ADVISORY COUNCIL FOR TECHNICAL-VOCATIONAL EDUCATION IN TEXAS TO THE STATE BOARD OF EDUCATION. A LEGISLATIVE MANDATE EVENTUALLY RESULTED AND STATED THAT FUNDS "SHALL BE EXPENDED FOR THE PURPOSE OF DEVELOPING DATA DIRECTLY RELATING TO PROGRAMS CONDUCTED BY PUBLIC JUNIOR COLLEGES AND SHALL BE FOR THE PURPOSE OF DEVELOPING SYSTEMS FOR USE BY THE JUNIOR COLLEGES." THE TEXAS EDUCATION AGENCY INITIATED PROCEDURES TO DESIGN THE SYSTEM. AFTER CONSULTATION WITH AN ADVISORY COMMITTEE OF COMMUNITY COLLEGE EDUCATORS, TEA REQUESTED PROPOSALS FROM TEXAS COLLEGES AND UNIVERSITIES TO CONTRACT FOR THE DESIGN OF THE SYSTEM. PROPOSALS WERE RECEIVED FROM SEVERAL INSTITUTIONS AND, AFTER REVIEW AND EVALUATION BY THE ADVISORY COMMITTEE AND THE TEA, TARRANT COUNTY JUNIOR COLLEGE WAS SELECTED AS THE PRIME CONTRACTOR. AS A RESULT, PROJECT FOLLOW-UP BECAME OPERATIONAL ON MAY 15, 1974.

PURPOSE AND OBJECTIVES

THE SPECIFIC PURPOSE OF PROJECT FOLLOW-UP IS TO DEVELOP, TEST AND VALIDATE A MANAGEMENT INFORMATION SYSTEM FOR THE FOLLOW-UP OF STUDENTS WHO ENTER TEXAS PUBLIC COMMUNITY AND JUNIOR COLLEGES. THE SYSTEM IS BEING DESIGNED FOR USE BY MACHINE OR MANUAL PROCESSING, AND THEREFORE SUITABLE FOR BOTH LARGE AND SMALL PUBLIC TWO-YEAR COLLEGES.

INCLUDED IN THE SYSTEM DEVELOPMENT ARE PROCEDURES TO ASSURE INTERFACE WITH PRESENT STATE REPORTING SYSTEMS AND UTILIZATION OF PRESENTLY OPERATING TEXAS COMMUNITY COLLEGE FOLLOW-UP SYSTEMS. SUB-SYSTEMS FOR STUDENTS SEEKING DEGREES, CERTIFICATES, SKILL ACQUISITION, SKILL UPGRADING, ETC., IN BOTH CREDIT AND NON-CREDIT AREAS, ALSO ARE BEING DEVELOPED. FLEXIBILITY IS BEING MAINTAINED SO THAT TEXAS COMMUNITY COLLEGES CAN INSTITUTE THE SYSTEM BY ADAPTING IT TO UNIQUE NEEDS OF THAT INSTITUTION. COMMUNITY COLLEGES ARE SHARING IN THE OVERALL DEVELOPMENT OF THE SYSTEM ON A SELECT SUBCONTRACTOR AND VOLUNTEER BASIS, AND ARE BEING KEPT ABREAST OF PROJECT FOLLOW-UP'S ACTIVITIES THROUGH INSTITUTIONAL REPRESENTATIVES.

THIS SYSTEM OF FOLLOW-UP MANAGEMENT INFORMATION SHOULD PROVIDE MEANS FOR THE IDENTIFICATION OF THE DIVERSE GOALS OF STUDENTS IN TWO-YEAR COLLEGES, AS WELL AS INFORMATION REGARDING INDIVIDUAL GOAL ACHIEVEMENT. THE SYSTEM SHOULD ALSO PROVIDE METHODS FOR EACH INSTITUTION TO OBTAIN CONSISTENT STUDENT FOLLOW-UP INFORMATION FOR USE IN LOCAL PLANNING AND EVALUATION.

PHASE DEVELOPMENT

PROJECT FOLLOW-UP ACTIVITIES ARE COMPOSED OF SIX DEFINABLE PHASES--EACH WITH ITS OWN SET OF SPECIFIED OBJECTIVES AND PLANNED OUTCOMES. A LISTING OF THESE PHASES, WITH AN EXPECTED PROJECT TERMINATION DATE OF AUGUST 31, 1976, FOLLOWS:

DEVELOPMENTAL PHASE
DESIGN PHASE
SUB-SYSTEM TEST PHASE
SYSTEM INTEGRATION PHASE
EVALUATION AND REPORT PHASE
RECOMMENDATIONS AND FUTURE FUNDING PHASE

FULL PARTICIPATION FROM EACH TEXAS PUBLIC COMMUNITY AND JUNIOR COLLEGE IS EXPECTED TO RESULT IN A COORDINATED, STATEWIDE EFFORT TO ACHIEVE OPTIMUM RESULTS OF EACH PHASE AND ACCOMPLISH THE GOALS OF THE OVERALL PROJECT.

COLLEGE OF THE MAINLAND:

FOLLOW-UP OF SPRING 1973 STUDENTS

BY

LARRY WILKINSON, ANN FINCH STEFANI, AND LEE YOM, PH.D.
OFFICE OF INSTITUTIONAL RESEARCH AND SPECIAL STUDIES
COLLEGE OF THE MAINLAND
TEXAS CITY, TEXAS 77590
30 JUNE 1976

(CONDUCTED UNDER SUB-CONTRACT FROM:
PROJECT FOLLOW-UP
TARRANT COUNTY JUNIOR COLLEGE DISTRICT AND
TEXAS EDUCATION AGENCY)

I. STATEMENT OF ACTIVITIES

"Why conduct surveys? One of the major reasons is that surveys can provide perspectives for action. Surveys can be utilized as research and educational tools to create and stimulate both public interest and participation in the decision-making process. They can aid in developing policy, planning programs and directing future change."(Christenson - 1975)

Follow-up surveys of former students are needed for all these reasons, both at the institutional and at the statewide planning levels.

College of the Mainland was already embarked on its first comprehensive follow-up survey of former students when the Request for Proposals for subcontracts from Project FOLLOW-UP was received. For reasons of cost and of manpower, we had decided to conduct the survey by mail, and to survey only a sample of students enrolled in credit courses in one specified semester, repeating the survey regularly to obtain data for successive semesters of enrollees. The Spring semester of 1973 had been selected as the first such semester to sample.

RATIONALE. We were concerned, however about the reliability and validity of the survey; mail surveys are in somewhat poor repute because low response rates can produce unpredictable and unknown distortions in the results. There was also some question by administrators of whether a sample would sufficiently and accurately reflect the characteristics of the entire student population. Therefore, we welcomed the opportunity actually to measure the effects of possible bias due to low mail response rates, using Project FOLLOW-UP funding to conduct a validating, cross-check personal interview survey of non-respondents. We proceeded to seek and obtain a subcontract under the "Random Sampling" module of the system proposed by Project FOLLOW-UP to test the accuracy of our "simple random sampling" technique and to measure non-response bias in our mail survey.

WE ARE CONFIDENT THAT A SAMPLING APPROACH OF SOME FORM WILL BE NECESSARY FOR FOLLOW-UP SURVEYS ON A CONTINUING STATEWIDE SCALE. EVEN IF ATTEMPTS ARE MADE TO FOLLOW-UP EVERY GRADUATE, PROGRAM COMPLETER, DROP-OUT, OR ENROLLEE, THEN THE PROBLEM OF NON-RESPONSE, OR "LOST CASE", BIAS WILL STILL REMAIN BECAUSE MANY WILL NOT BE LOCATEABLE AFTER LEAVING THE INSTITUTION AND MANY WILL REFUSE TO PARTICIPATE IN MAIL OR EVEN IN PERSONAL INTERVIEW SURVEYS. (HAUG, 1971, PAGE 204)

IT SEEMS ADVISABLE THEN, TO DEVELOP METHODS OF MEASURING DISTORTIONS IN THE DATA PRODUCED BY SUCH PROBLEMS AND TO TEST TECHNIQUES OF QUALITY CONTROL IN THE DATA. OTHERWISE WE FACE THE RISK OF LARGE EXPENDITURES OF EFFORT AND RESOURCES RESULTING IN INFORMATION WHICH IS USELESS FOR PLANNING, DEVELOPING POLICY OR DIRECTING FUTURE CHANGE AND OF ONLY DOUBTFUL VALUE FOR CREATING PUBLIC INTEREST AND PARTICIPATION IN THE DECISION-MAKING PROCESS.

WHILE IT MAY BE TRUE THAT GOVERNING BOARDS AND THE GENERAL PUBLIC MAY HAVE LITTLE INTEREST IN TECHNICAL DETAILS OF HOW FOLLOW-UP SURVEYS ARE CONDUCTED, THEY HAVE A STRONG AND REASONABLE CONCERN THAT THE RESULTS BE ACCURATE, RELIABLE, AND COST-EFFECTIVE. AS TAXPAYERS THEY HAVE A RIGHT TO KNOW THAT EVERY REASONABLE CARE HAS BEEN EXCERCISED TO MAKE THEM SO.

BACKGROUND. THE DECISION TO FOLLOW-UP ALL ENROLLEES RATHER THAN A SPECIAL GROUP, SUCH AS TECH-VOC PROGRAM GRADUATES, WAS BASED ON THE OVERALL MISSIONS OF THE COLLEGE. AS STATED IN ITS PROSPECTUS, THE MISSIONS OF COLLEGE OF THE MAINLAND ARE:

> COLLEGE OF THE MAINLAND SHALL BE DEVELOPED AS A COMPREHENSIVE COMMUNITY COLLEGE. THE FOUR BROAD MISSIONS OF THE INSTITUTION SHALL BE:
>
> A. TO PROVIDE A VARIETY OF TWO-YEAR COLLEGE PARALLEL PROGRAMS FOR THOSE WHO WISH TO TRANSFER TO SENIOR INSTITUTIONS.
>
> B. TO PROVIDE A VARIETY OF TWO-YEAR OCCUPATIONAL PROGRAMS FOR THOSE WHO WISH TO ENTER EMPLOYMENT IMMEDIATELY UPON GRADUATION.
>
> C. TO PROVIDE A VARIETY OF ONE-YEAR OCCUPATIONAL PROGRAMS FOR THOSE WHO WISH TO ENTER EMPLOYMENT IMMEDIATELY UPON GRADUATION.

D. To provide a variety of continuing education opportunities for those who wish to pursue areas of personal interest and those who desire to upgrade themselves in their present occupations.

The above missions shall have equal status in the College and within the limits of available resources, shall receive emphasis and support in proportion to community need and demand for them.

In the execution of the missions of the College, experimentation and innovation shall be carried out on a deliberate, planned basis in all divisions of the operation. (Prospectus, p. 1)

With the above missions in mind, College of the Mainland conducted a follow-up survey of a simple random sample of students enrolled in the Spring semester of 1973 in order to assess the College's effectiveness in achieving these missions. The general frame of reference for the follow-up survey were the following research questions about our former students:

1. Where are they?
2. What are they doing now?
3. How well are they doing now?
4. Did attending College of the Mainland improve the quality of their lives?
   - A. If yes:
     - (1) In what ways?
     - (2) How much?
   - B. If no:
     - (1) In what ways?
     - (2) How much did it hurt?
     - (3) How could it have been better?

The primary purpose of the follow-up survey was to provide valid and reliable answers to the above questions. However, this is a highly complex process and thus calls for expanded studies as well as replication in terms of research design, sampling, data

GATHERING, DATA ANALYSES AND INTERPRETATION.

THE PROJECT FOLLOW-UP SUBCONTRACT ENABLED THE STUDY TO BE MORE METHODOLOGICALLY SOUND AND THUS MORE RELIABLE. PROJECT FOLLOW-UP IS A STATEWIDE PROJECT FUNDED BY THE TEXAS EDUCATION AGENCY AT THE TARRANT COUNTY JUNIOR COLLEGE DISTRICT (TCJC). TCJC LET SEVEN SUBCONTRACTS TO 2-YEAR COLLEGES AROUND THE STATE TO HELP DESIGN AND TEST COMPONENTS OF THE PROPOSED STATEWIDE FOLLOW-UP SYSTEM. COLLEGE OF THE MAINLAND'S SUBCONTRACT WAS FOR THE PURPOSE OF TESTING THE "RANDOM SAMPLING" OR "REPRESENTATIVE SAMPLING" MODULE OF THE SYSTEM.

II. AND III. PROCEDURES AND INSTRUMENTATION

THE POPULATION FOR THE FIRST STUDY WAS THE TOTAL ENROLLMENT OF 1256 FOR THE SPRING SEMESTER OF THE SCHOOL YEAR 1972-1973. FROM THE POPULATION, 500 STUDENTS WERE DRAWN RANDOMLY BY A COMPUTER SUB-ROUTINE AS THE SURVEY SAMPLE. THIS SUB-ROUTINE WAS DEVELOPED BY THE DATA PROCESSING CENTER AT COM.

THE FIRST QUESTIONNAIRE WAS DEVELOPED USING THE FOLLOWING METHOD. A ROUGH DRAFT WAS DEVELOPED USING QUESTIONS DRAWN FROM OTHER FOLLOW-UP STUDIES AND INCLUDING SOME QUESTIONS DESIGNED TO FULFILL THE NEEDS OF COLLEGE OF THE MAINLAND. THIS DRAFT WAS SENT TO ALL OF THE PROFESSIONAL STAFF WITH A LETTER REQUESTING SUGGESTIONS FOR IMPROVEMENT. (SEE APPENDIX A)

THE SUGGESTIONS WERE STUDIED AND MANY WERE INCORPORATED INTO THE FINAL QUESTIONNAIRE. (SEE APPENDIX B)

THE QUESTIONNAIRE WAS MAILED TO EACH MEMBER OF THE SAMPLE; I.E., 500 QUESTIONNAIRES WERE MAILED WITH BUSINESS REPLY ENVELOPE INCLUDED. AFTER THREE WEEKS A HAND SIGNED REMINDER LETTER WAS MAILED INCLUDING ANOTHER COPY OF THE QUESTIONNAIRE, FOLLOWED AFTER FOUR DAYS BY A POST CARD, AND FINALLY A THIRD QUESTIONNAIRE AND LETTER WERE SENT THREE WEEKS LATER BY CERTIFIED MAIL. COMPLETED QUESTIONNAIRES WERE MAILED TO THE EDUCATIONAL RESEARCH OFFICE AT COLLEGE OF THE MAINLAND FOR TABULATION, ANALYSES AND INTERPRETATION.

THE RESPONSES WERE RECEIVED BY THE EDUCATIONAL RESEARCH OFFICE SOMEWHAT MORE SLOWLY THAN EXPECTED. DEADLINE DATES FOR RECEIVING QUESTIONNAIRES WERE REVISED SEVERAL TIMES. AFTER HAVING MAILED THE THREE WAVES OF REMINDERS, A TOTAL OF 240 QUESTIONNAIRES (48%) WERE RECEIVED BY THE EDUCATIONAL RESEARCH OFFICE. ELEVEN ADDITIONAL QUESTIONNAIRES WERE RETURNED BLANK. REASONS GIVEN WERE SUCH AS DEATH, DISABILITY, OR THE RESPONDENTS WERE ABROAD AND THUS THE ELEVEN QUESTIONNAIRES WERE NOT INCLUDED IN THE ANALYSES. THE TOTAL OF 240 WERE LABELED AS THE "MAIL RESPONDENT SAMPLE". THUS A RESPONSE RATE OF 48% TO A MAIL QUESTIONNAIRE WAS ACHIEVED WITH A 5-PAGE QUESTIONNAIRE CONTAINING 77 ITEMS.

THE 49.8% (TOTAL 249) OF THE SAMPLE WHO DID NOT RETURN THEIR QUESTIONNAIRES BY THE CUT-OFF DATE WERE LABELED AS "MAIL NON-RESPONDENTS". USING A RANDOM TABLE, A TOTAL OF 70 (28%) OF THE MAIL NON-RESPONDENTS WERE DRAWN RANDOMLY AS A SUB-SAMPLE FOR A VALIDITY CHECK.

THE INTERVIEWING PORTION OF OUR PROJECT WAS SUB-CONTRACTED TO THE RESEARCH TRIANGLE INSTITUTE (RTI), AND WAS CONDUCTED BY RTI'S FIELD SUPERVISOR PERMANENTLY LOCATED IN HUMBLE, TEXAS, MS. MAIZIE VAN SCIVER.

USING INTERVIEWERS TRAINED IN SKIP-TRACING TECHNIQUES, 56 PERSONS WERE TRACKED DOWN AND INTERVIEWED, SOME IN PERSON BUT MOST BY TELEPHONE. THIS REPRESENTED A RESPONSE RATE OF 80% ON THIS SUB-SAMPLE OF THE TOTAL 70 AND WAS LABELED AS "INTERVIEW SAMPLE". 11 OF THE 70 (16%) WERE TOTALLY UNLOCATEABLE BY ANY OF THE RIGOROUS MEANS WE APPLIED; EVEN NEIGHBORS AND RELATIVES COULD GIVE US NO INFORMATION ON THEIR PRESENT WHEREABOUTS. CONSEQUENTLY, THEY WERE DROPPED FROM THE SAMPLE, LEAVING A SUB-POPULATION OF 59. THE 56 (OUT OF 70) RESPONDENTS INTERVIEWED REPRESENT 80% 3 PERSONS (4%) REFUSED TO BE INTERVIEWED

A COPY OF MS. VAN SCIVER'S FINAL REPORT ON THE FIELD INTERVIEWING IS ATTACHED AS APPENDIX C.

FOR THE SECOND YEAR'S SURVEY, THE 1975 QUESTIONNAIRE WAS REVISED AND EXPANDED. THIS QUESTIONNAIRE WAS PRETESTED ON SEVERAL CLASSES AT COLLEGE OF THE MAINLAND. THIS SHOWED SEVERAL AREAS WHICH NEEDED REVISIONS. THE FINAL QUESTIONNAIRE WAS CONSIDERABLY LONGER THAN THE ORIGINAL. (SEE APPENDIX D)

THE QUESTIONNAIRE WAS MAILED TO EACH MEMBER OF THE SAMPLE, ALONG WITH A RETURN ENVELOPE. THIS FIRST WAVE WAS MAILED USING BULK POSTAGE RATES. ONE WEEK LATER A SECOND QUESTIONNAIRE PLUS A COVER LETTER SIGNED IN INK BY THE PROJECT DIRECTOR WAS MAILED TO ALL OF THOSE WHO HAD NOT RESPONDED. THIS WAVE WAS MAILED USING FIRST CLASS POSTAGE. EACH ENVELOPE WAS STAMPED "ADDRESS CORRECTION REQUESTED" AND "PLEASE FORWARD". ONE WEEK LATER, A POST CARD WAS MAILED VIA FIRST CLASS MAIL. THIS POST CARD WAS A REMINDER CARD AS WELL AS A THANK YOU FOR THOSE WHO HAD RESPONDED. THREE WEEKS

LATER, ANOTHER QUESTIONNAIRE, RETURN ENVELOPE AND A COVER LETTER SIGNED BY THE DIRECTOR OF EDUCATIONAL RESEARCH WERE MAILED VIA CERTIFIED MAIL. FIVE WEEKS LATER, A FIFTH AND FINAL WAVE WAS MAILED. THIS WAVE CONSISTED OF ANOTHER QUESTIONNAIRE, RETURN ENVELOPE AND A COVER LETTER FROM THE PROJECT DIRECTOR. (SEE APPENDIX E)

THE SAMPLE MEMBERS WERE THEN GIVEN TWO WEEKS TO RESPOND. AT THE END OF THIS TIME 210 SAMPLE MEMBERS HAD RESPONDED. THIS REPRESENTS 42% OF THE TOTAL SAMPLE.

THERE WERE MANY PROBLEMS WITH THIS YEAR'S MAIL SURVEY. FIRST THERE WERE 78 (15.6%) SAMPLE MEMBERS WHO WERE NEVER LOCATED. THERE WERE 28 (5.6%) MEMBERS WHO WERE LOCATED ONLY AFTER MUCH TIME AND EFFORT HAD BEEN EXPENDED. THESE EFFORTS INCLUDED A SEARCH OF THE SCHOOL RECORDS--BOTH PRESENT AND PAST, A SEARCH OF ALL PHONE BOOKS FOR THIS AREA (INCLUDING HOUSTON, GALVESTON, ETC.), A SEARCH OF ALL CITY DIRECTORIES (HOUSTON, GALVESTON, ETC.), SEARCHES OF THE COLE'S CRISSCROSS FOR HOUSTON AND GALVESTON COUNTY, TELEPHONE CALLS TO VARIOUS POSTMASTERS (DICKINSON, HITCHCOCK, ALTA LOMA, ETC.) AND PERSONAL TALKS WITH COLLEGE PERSONNEL.

AFTER ALL EFFORTS HAD BEEN EXHAUSTED IN TRYING TO LOCATE THE SAMPLE MEMBERS, WE WERE LEFT WITH 260 NON-RESPONDENTS. A SUB-SAMPLE OF 78 (30%) WAS CHOSEN USING A TABLE OF RANDOM NUMBERS. OF THIS TOTAL ONLY 33 (37.9%) WERE INTERVIEWED BY TELEPHONE OR IN PERSON. TWENTY-FIVE (32.1%) OF THE SUB-SAMPLE WERE NEVER LOCATED. AND THE REMAINING 20 (25.6%) REFUSED TO COOPERATE.

THIS YEAR'S FIGURES ARE MUCH SMALLER THAN THE PREVIOUS YEAR'S. THERE WERE SEVERAL FACTORS WHICH MAY HAVE INFLUENCED THIS. FIRST, THE QUESTIONNAIRE WAS CONSIDERABLE LONGER THAN THE PREVIOUS YEAR'S. SECONDLY, THE SURVEY WAS DONE DURING THE CHRISTMAS HOLIDAYS. THIRD, THERE SEEMS TO BE A GENERAL APATHY AMONG THE PUBLIC IN REGARDS TO COMPLETING QUESTIONNAIRES. AND FINALLY, WE ENCOUNTERED MUCH DIFFICULTY IN LOCATING MEMBERS OF OUR SAMPLE THIS YEAR. MANY OF THE SAMPLE MEMBERS SEEMED TO HAVE VANISHED, WHILE THE PARENTS OF OTHERS--SUCH AS STUDENTS WHO HAD GONE ON TO A FOUR YEAR COLLEGE OR UNIVERSITY OR THOSE WHO HAD MARRIED OR JOINED THE SERVICE, REFUSED TO GIVE US FORWARDING ADDRESSES.

THE SECOND YEAR'S SURVEY RESULTED IN 210 MEMBERS WHO RESPONDED BY MAIL AND 33 MEMBERS WHO WERE INTERVIEWED. FOR A TOTAL OF 243 (48.6%) SAMPLE MEMBERS WHO RESPONDED.

IV. INFORMATION ANALYSIS

Since every subject did not answer all the itmes on the questionnaire, the responses to each question have been examined individually. The two samples, i.e., "mail-respondent sample" and "interview sample", were analyzed separately. Numerous variables on the questionnaire on which interesting relationships may exist were analyzed using the chi-square test for independent categories.

In order to assess how well the sample (the total of 500) represents the original population from which the sample of 500 was drawn, chi-square tests for goodness-of-fit (Mosteller and Rourke, 1973, pp. 141-207) were applied each year.

Chi-square tests were also applied in order to measure the amount and sources of non-response bias to compare data for "interview sample" with data from "mail respondent sample".

All statistical analyses were done using the Statistical Package for the Social Sciences at the Computing Center at the University of Houston.

Comparision I: Original Sample to Population. For the first year the total enrollment (1256) for the Spring semester of 1972 was compared with the random sample (500). The former was labeled as a "population" and the latter was labeled as a "sample".

The two groups were compared on three variables--sex, age, GPA at College of the Mainland in order to measure how well the "sample" represented the "population" by using chi-square of goodness-of-fit. The results indicated (see Table A) that there were no significant differences between the "population" and the "sample" on sex, age, and GPA.

TABLE A. COMPARISION OF SIMPLE RANDOM SAMPLE TO POPULATION

AGE	Less than 25	25-34	35 and over	
Population	588	403	257	1248
	47.1%	32.3%	20.6%	
Sample	218	174	100	492
	44.3%	35.4%	20.3%	
	806	577	357	1740

Chi-Square = 1.618 df = 2 (not significant - $p > .20$)

SEX	Male	Female	
Population	676 54.2%	572 45.8%	1248
Sample	250 50.8	242 49.2%	492
	926	814	1740

Chi-Square = 1.462 df = 1 (not significant - p > .20)

GPA	Less than C	C	B	A	
Population	354 28.4%	343 27.5%	358 28.7%	193 15.5%	1248
Sample	124 25.2%	135 27.4%	148 30.1%	85 17.3%	492
	478	478	506	278	1740

Chi-Square = 2.245 df = 3 (not significant - p > .20)

THE SECOND YEAR, WE FOUND BASICALLY THE SAME RESULTS. TABLE B SHOWS THE COMPARISONS OF THE TOTAL POPULATION (1527) AND THE SAMPLE (500).

AGE	Less than 25	25-34	35 and over	
Population	648 42.4%	554 36.3%	325 21.3%	1527
Sample	205	171	103	479
	853	725	428	2006

Chi-Square = .047 df = 2 (not significant - p > .20)

SEX	Male	Female	
Population	839 54.9%	688 45.1%	1527
Sample	261 54.5%	218 45.5%	479
	1100	906	2006

Chi-Square = .045 df=1 (not significant - p > .20)

GPA	Less than C	C	B	A	
Population	48	411	467	227	1153
	4.2%	35.6%	40.5%	19.7%	
Sample	10	138	154	72	374
	2.7%	36.9%	41.2%	19.3%	
	58	349	621	299	1527

Chi-Square = 1.69 df = 3 (not significant - p > .20)

THEREFORE, FOR BOTH YEARS THE RANDOM SAMPLES WERE REPRESENTATIVE OF THE ORIGINAL POPULATION. THE SAMPLES WERE NOT FOUND TO BE BIASED ON THE THREE VARIABLES MEASURED, AND THUS THE RESULTS MAY BE GENERALIZED TO THE ENTIRE POPULATION.

COMPARISION 2: SAMPLE WITH MAIL RESPONDENTS. WITH THE SAME RATIONALE, THE "SAMPLE" FOR THE FIRST YEAR WAS COMPARED WITH THE "MAIL-RESPONDENT SAMPLE" IN ORDER TO FIND WHETHER THE "MAIL-RESPONDENT SAMPLE" WAS SIGNIFICANTLY DIFFERENT FROM THE "SAMPLE" ON SEX, AGE, AND GPA USING CHI-SQUARE OF GOODNESS-OF-FIT. THE STATISTICAL ANALYSES (SEE TABLE C) INDICATED THAT THE TWO GROUPS WERE SIGNIFICANTLY DIFFERENT ON AGE AND GPA BUT NOT ON SEX.

TABLE C. COMPARISION OF SAMPLE WITH MAIL-RESPONDENTS

AGE	Less than 25	25-34	35 and over	
Population	218	174	100	
	44.3%	35.4%	20.0%	492
Sample	112	52	49	213
	52.6%	24.4%	23.0%	
	330	226	149	705

Chi-Square = 10.13 df = 2 (significant - p < .01)

SEX	Male	Female	
Population	250	242	
	50.8%	49.2%	492
Sample	111	118	
	48.5%	51.5%	229
	361	360	721

Chi-Square = .36 df = 1 (not significant - p > .20)

GPA	Less than C	C	B	A	
Population	124	135	148	85	
	25.2%	27.4%	30.1%	17.3%	482
Sample	8	41	136	46	
	3.5%	17.7%	58.9%	19.9%	231
	132	176	284	131	731

Chi-Square = 80.54 df = 3 (significant - p .001)

THERE WAS A SIGNIFICANT DIFFERENCE ($P < .01$) BETWEEN THE "SAMPLE" AND THE "MAIL-RESPONDENT SAMPLE" IN THE DISTRIBUTION OF AGE, I.E., IF THE SUBJECTS WERE BETWEEN THE AGES OF 25 AND 34 THEN THEY WERE LESS LIKELY TO RETURN THEIR QUESTIONNAIRE BY MAIL.

THERE WAS ALSO A SIGNIFICANT DIFFERENCE ($P < .001$) BETWEEN THE TWO GROUPS IN RELATION TO THEIR GPA. THAT MEANT THAT STUDENTS WHOSE GPA WAS LOW WERE SIGNIFICANTLY LESS LIKELY TO RESPOND BY MAIL THAN WERE THOSE WHOSE GPA WAS HIGH (B OR ABOVE).

THE SAME PROCEDURE WAS APPLIED FOR THE SECOND YEAR. THIS YEAR THERE WAS A SIGNIFICANT DIFFERENCE ONLY ON GPA. (SEE TABLE D)

AGE (1973)	Less than 25	25-34	35 and over	
Sample	205	171	103	
	42.8%	35.7%	21.5%	479
Respondents	124	69	50	
	51.0%	28.4%	20.6%	243
	329	240	153	722

Chi-Square - 5.05 df = 2 (not significant - p > .05)

SEX (1973)	Male	Female	
Sample	261	218	
	54.5%	45.5%	479
Response	125	111	
	53.0%	47.0%	236
	386	329	715

Chi-Square = .10 df=1 (not significant - p > .20)

GPA (1973)	Less than C	C	B	A	
Sample	10	138	154	72	
	2.7%	36.9%	41.2%	19.3%	374
Response	14	51	107	53	
	6.2%	22.7%	47.6%	23.5%	225
	24	189	261	125	599

Chi-Square = 16.87 df = 3 (significant - p < .001)

COMPARISION 3: MAIL-RESPONDENT SAMPLE WITH POPULATION. To TEST WHETHER THE DIFFERENCES BETWEEN THE SAMPLE AND THE MAIL-RESPONDENT SAMPLE ALSO EXISTED BETWEEN THE POPULATION AND THE MAIL RESPONDENT SAMPLE, WE ALSO CALCULATED THOSE CHI-SQUARE VALUES FOR AGE, SEX AND GPA. AS IT TURNED OUT, THE SIGNIFICANT DIFFERENCES ON AGE, AND GPA (SEE TABLE C) WERE CONSISTENT, AS EXPECTED FROM COMPARISIONS 1 AND 2.

TABLE C. COMPARISION OF MAIL-RESPONDENT SAMPLE TO POPULATION

AGE	Under 25	25-34	35 and over	
Population	588	403	257	
	47.1%	32.3%	20.6%	1248
Respondent	112	52	49	
	52.6%	24.4%	23.0%	213
	700	455	306	1461

Chi-Square = 7.62 df = 2 (significant - p < .05)

SEX	Male	Female	
Population	676	572	1248
	54.2%	45.8%	
Respondent	111	118	
	48.5%	51.5%	229
	787	690	1477

Chi-Square = 2.51 df=1 (not significant - p > .10)

GPA+	Less than C	C	B	A	
Population	354	343	358	193	1248
	28.4%	27.5%	28.7%	15.5%	
Respondent	8	41	136	46	
	3.5%	17.7%	58.9%	19.9%	231
	362	384	494	239	1479

Chi-Square = 113.3 df=3 (significant - p < .001)

AGE (1973)	Less than 25	25-34	35 and over	
Population	648	554	325	1527
	42.4%	36.3%	21.3%	
Respondents	124	69	50	243
	51.0%	28.4%	20.6%	
	772	623	375	1770

Chi-Square = 7.125 df = 2 (significant - $p < .05$)

SEX (1973)	Male	Female	
Population	839	688	1527
	54.9%	45.1%	
Respondent	125	111	236
	53.0%	47.0%	
	964	799	1763

Chi-Square = .316 df=1 (not significant - $p > .20$)

GPA (1973)	Less than C	C	B	A	
Population	48	411	467	227	1153
	4.2%	35.6%	40.5%	19.7%	
Respondent	14	51	107	53	225
	6.2%	22.7%	47.6%	23.6%	
	62	462	574	280	1378

Chi-Square = 14.51 df = 3 (significant - $p < .01$)

COMPARISION 4: QUESTIONNAIRE RESPONSE DIFFERENCES BETWEEN MAIL AND INTERVIEW SAMPLE. GIVEN THAT SIGNIFICANT DIFFERENCES ON THE TEST VARIABLES OF AGE AND GPA EXISTED BETWEEN THE MAIL AND INTERVIEW SAMPLES, DOES IT FOLLOW THAT DIFFERENCES ON OTHER VARIABLES RELEVANT TO FOLLOW-UP ALSO EXIST? TO TEST THIS, CHI-SQUARE VALUES WERE COMPUTED FOR THE FIRST YEAR'S SAMPLE BETWEEN THE TWO SAMPLES ON EVERY VARIABLE IN THE QUESTIONNAIRE (102 VARIABLES-SEE APPENDIX B). OF ALL THESE, ONLY FOUR HAD CHI-SQUARE SCORES HIGH ENOUGH TO INDICATE DIFFERENCES SIGNIFICANT AT THE .05 LEVEL.

1) AGE-PERSONS BETWEEN 25 AND 34 RESPONDED LESS TO THE MAIL SURVEY THAN DID PERSONS EITHER YOUNGER OR OLDER ($p=.0271$).

AGE	Under 25	25-34	35 and over	
Interview	29	21	6	56
	17.3%	28.8%	10.9%	
Mail	139	52	49	240
	82.7%	71.2%	89.1%	
	168	73	55	296

Chi-Square = 7.22 df = 2 (significant - $p < .05$)

2) PARENTS INCOME - THOSE WHOSE PARENTS FAMILY INCOMES WERE IN THE MIDDLE RANGE ($8,000-$14,999 PER YEAR) RESPONDED PROPORTIONALLY LESS BY MAIL THAN DID THOSE WITH EITHER HIGHER OR LOWER INCOMES. ($p = .027$)

PARENT INCOME	Low	Middle	High	
Interview	11	19	26	56
	10.9%	26.4%	21.1%	
Mail	90	53	97	240
	89.1%	73.6%	78.9%	
	101	72	123	296

Chi-Square=7.26 df=2 (significant - $p < .05$)

3) PRESENT UNDERGRADUATE STUDENT - THOSE WHOSE PRESENT ACTIVITY WAS "UNDERGRADUATE STUDENT AT SENIOR COLLEGE" WERE FAR MORE LIKELY TO BE IN THE MAIL RESPONDENT SAMPLE THAN THE INTERVIEW SAMPLE. ($p < .000$)

UNDERGRADUATE STUDENT AT SENIOR COLLEGES

	Yes	No	
Interview	3	52	55
	4.7%	25.7%	
Mail	61	150	211
	95.3%	74.3%	
	64	202	266

Chi-Square = 11.89 df = 1 (significant - $p < .001$)

4) COM HELPED ADVANCE ON JOB-THOSE IN THE MAIL-RESPONDENT SAMPLE WERE LESS LIKELY TO RESPOND "YES", THAT COURSES AT COM "HELPED ME ADVANCE ON JOB" THAN WERE THOSE INTERVIEWED ($p=.027$)

HELPED ME ADVANCE ON JOB

	YES	NO	
Interview	24	21	45
	25.8%	13.7%	
Mail	69	132	201
	74.2%	86.3%	
	93	153	246

Chi-Square = 4.87 df = 1 (significant - $p < .05$)

OF ALL THE OTHER VARIABLES IN THE SURVEY, THERE WERE NO OTHER SIGNIFICANT DIFFERENCES BETWEEN THE MAIL-RESPONDENTS AND THE INTERVIEW RESPONDENTS.

THE AREAS OF SIGNIFICANT DIFFERENCES WHICH WE FOUND FOR THE SECOND YEAR'S SURVEY ARE AS FOLLOWS:

1) WHO LIVES IN YOUR HOUSEHOLD - THOSE WHO LIVE EITHER ALONE OR WITH OTHERS WHO ARE NOT RELATED TO THEM ARE LESS LIKELY TO RESPOND BY MAIL THAN ARE THOSE WHO LIVE IN WITH A NUCLEAR OR EXTENDED FAMILY. (p=.0390)

LIVE WITH (1976)	Alone	Extended Family	Others Not Related	Immediate Family	
Interview	6	2	4	21	33
	18.2%	6.1%	12.1%	63.6%	
Mail	14	40	14	137	205
	6.8%	19.5%	6.8%	66.8%	
	20	42	18	158	238

Chi-Square = 8.37005 df = 3 (significant - $p < .05$)

2) RACE - BLACKS ARE LESS LIKELY TO RESPOND TO THE MAIL SURVEY THAN ARE MEMBERS OF OTHER RACES. (p=.008)

RACE (1976)	Black	Caucasian	Chicano	Other	
Interview	14	17	2	0	33
	42.4%	51.5%	6.1%	0	
Mail	28	159	13	5	205
	13.7%	77.6%	6.3%	2.4%	
	42	176	15	5	238

Chi-Square = 16.74409 df = 3 (significant - $p < .001$)

3) GRADE AVERAGE AT COLLEGE OF THE MAINLAND - THOSE WHO HAVE AN A AVERAGE AT COM ARE MORE LIKELY TO RESPOND BY MAIL THAN ARE THOSE WHO HAVE A C AVERAGE. FURTHERMORE, THOSE WITH D AVERAGES ARE MORE LIKELY TO RESPOND BY MAIL THAN ARE THOSE WITH A C AVERAGE.

GRADE POINT AVERAGE AT COM (1976)

	Less than C	C	B	A	
Interview	1	12	16	1	30
	3.3%	40.0%	53.3%	3.3%	
Mail	13	39	91	52	195
	6.7%	20.0%	46.7%	26.7%	
	14	51	107	53	225

Chi-Square = 11.30495 df = 3 (significant - p < .01)

4) HIGHEST ACADEMIC DEGREE YOUR PARENTS EXPECT YOU TO OBTAIN- THOSE RESPONDENTS WHO PERCEIVED THEIR PARENTS AS EXPECTING THEM TO RECEIVE AN AA OR AAS DEGREE WERE LESS LIKELY TO RESPOND BY MAIL, THAN THOSE WHO PERCEIVED THEIR PARENTS AS EXPECTING THEM TO RECEIVE A BA DEGREE OR HIGHER. (p < .01)

HIGHEST ACADEMIC DEGREE YOUR PARENTS EXPECT YOU TO OBTAIN

	None	AA	BA	MA or Higher	
Interview	10	10	7	3	30
	33.3%	33.3%	23.3%	10.0%	
Mail	66	20	59	33	178
	37.1%	11.2%	33.1%	18.5%	
	76	30	66	66	208

Chi-Square = df = 3 (significant - p < .01)

5) PARENTS OR GUARDIANS CONTRIBUTION TO COLLEGE EXPENSES - THOSE STUDENTS WHO RESPONDED BY MAIL WERE LESS LIKELY TO HAVE RECEIVED ANY FINANCIAL SUPPORT FROM THEIR PARENTS THAN WERE THOSE WHO WERE INTERVIEWED BY PHONE OR IN PERSON. (p=.0461) (THIS IS CONTRARY TO THE FINDING CONCERNING THOSE WHO LIVE ALONE.)

PARENTS OR GUARDIANS CONTRIBUTION TO COLLEGE EXPENSES

	All	Some	None	
Interview	9	3	7	19
	47.4%	15.8%	36.8%	
Mail	28	33	71	132
	21.2%	25.0%	53.8%	
	37	36	78	151

Chi-Square = 6.15178 df=2 (Significant - p < .05)

6) Personal Earnings as a Source of College Expenses - Those students who relied on personal earnings were more likely to respond by mail. (Also consitent with #5 and contrary to # 1) (p=.0413)

PERSONAL EARNINGS FOR COLLEGE EXPENSES

	All	Some	None	
Interview	11	4	9	24
	45.8%	16.7%	37.5%	
Mail	74	52	26	152
	48.7%	34.2%	17.1%	
	85	56	35	176

Chi-Square = 6.37523 df=2 (significant - p < .05)

As evidenced by the preceeding section--there were no consistant differences found between the two years comparisons. Each of the surveys showed areas of bias. Yet, each year the areas of bias were different.

Therefore, we were unable to propose any systematic method for correcting for these biases. We feel it will be necessary to measure non-response bias each year until some consistant differences are discovered. At that point methods for correcting non-response bias should again be considered.

The following is a summary of the principles of sampling and some proposed methods for correcting for non-response bias.

AN ANALYSIS OF THE CAUSES, IMPLICATIONS AND REMEDIES OF NON-RESPONSE BIAS IN SAMPLE SURVEYS

In the social sciences, the researcher is called upon daily to answer questions regarding attitudes, opinions and behaviors of people. Yet any attempt to measure these things for an entire population becomes an impossible task. And so the "process of sampling...has long been accepted as a legitimate and expeditious method of research procedure." (Parten, 1950: 106)

The acceptance of a sampling procedure has been facilitated because of the realization of the need for accuracy and the limitations imposed by time and cost. Sampling appears to be the compromise which will satisfy both needs.

Labovitz and Hagedorn (1975) state, "A scientist seldom observes a total population, but usually gathers data on a part or sample. He then tries to specify something about the population from knowledge of the sample (that is, he infers from one to the other)." (87)

Stephan and McCarthy (1958) formally define sampling as "the use of a definite procedure in the selection of a part for the express purpose of obtaining from it descriptions or estimates of certain properties and characteristics of the whole." (23)

Stephan and McCarthy continue their discussion to show some advantages gained by the use of sampling as opposed to a census. These are:

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"1) WE CAN PLAN OR ADJUST THE PROCEDURE SO AS TO OBTAIN THE INFORMATION MORE EFFICIENTLY, MORE CONVENIENTLY, AT A LESSER COST AND TO GREATER ADVANTAGE IN OTHER WAYS, UNTIL A PRACTICAL LIMIT IS REACHED FOR SUCH IMPROVEMENTS.

2) WE CAN LEARN SOMETHING ABOUT THE DEPENDABILITY OF THE INFORMATION FROM THE PROCEDURE ITSELF, IN ADDITION TO WHAT WE CAN LEARN FROM OTHER SOURCES.

3) WE CAN GAIN CERTAIN ADDITIONAL ADVANTAGES IN COST, ACCURACY AND EXTRA INFORMATION BY EMPLOYING A SERIES OF SAMPLING OPERATIONS OF SUFFICIENTLY SIMILAR CHARACTER, STANDARDIZING SOME PARTS OF THE PROCEDURE AND USING THE SAME PERSONNEL AND RESOURCES FOR MORE THAN ONE OPERATION." (24)

BASICALLY THERE ARE TWO TYPES OF SAMPLING METHODS. THESE ARE PROBABILITY AND NON-PROBABILITY SAMPLING. WITHIN EACH TYPE THERE ARE DIFFERENT METHODS OF SELECTING THE SAMPLES.

IN PROBABILITY SAMPLING, "EVERY ELEMENT IN THE POPULATION HAS A KNOWN NON-ZERO, PROBABILITY OF BEING SELECTED."(KISH,1965: 20) RANDOM SELECTION OF EACH ELEMENT IS THE BASIC KEY TO THIS PROCESS. THIS RANDOM SELECTION PROCESS IS USEFUL FOR TWO REASONS. FIRST, IT SERVES AS A SAFE-GUARD AGAINST CONSCIOUS OR UNCONSCIOUS BIAS IN THE SELECTION OF ELEMENTS. IT ENSURES THAT A RESEARCHER WILL BE UNABLE TO "STACK THE DECK" IN HIS FAVOR. THIS SIMPLY MEANS THAT GIVEN THE FACT THAT THE ORIGINAL POPULATION IS UNBIASED--CONTAINS AS MANY ELEMENTS OF ONE TYPE AS ANOTHER--THE CHANCES OF A RESEARCHER SELECTING ELEMENTS TO SUPPORT HIS HYPOTHESIS IS ERASED.

SECONDLY, "RANDOM SELECTION OFFERS THE RESEARCHER ACCESS TO THE BODY OF PROBABILITY THEORY WHICH PROVIDES THE BASIS FOR HIS ESTIMATES OF POPULATION PARAMETERS AND ESTIMATES OF ERROR."(BABBIE, 1975: 145)

PROBABILITY THEORY ALLOWS THE RESEARCHER TO SPEAK OF CONFIDENCE LEVELS WHEN HE DRAWS INFERENCES TO THE TOTAL POPULATION. SO THAT THE RESEARCHER CAN ANSWER A QUESTION LIKE "WHAT PERCENTAGE OF THE SCHOOL BODY APPROVES OF THE DRESS CODE?" BY SAMPLING RANDOMLY 100 STUDENTS AND REPORTING THAT 50% OF THE STUDENT BODY APPROVES. HE MAY FURTHER STATE THAT HE IS 95% CONFIDENT THAT THE ACTUAL RANGE IS 40 TO 60 PERCENT. (BABBIE 1975)

SIMPLE RANDOM SAMPLING IS DEFINED AS "A METHOD OF DRAWING SAMPLES SUCH THAT EACH AND EVERY DISTINCT SAMPLE OF THE SAME SIZE N HAS EXACTLY THE SAME PROBABILITY OF BEING SELECTED."(HAYS, 1973: 73)

FURTHERMORE, THERE ARE TWO DISTINCT FORMS OF SRS. THE FIRST IS RANDOM SAMPLING WITH REPLACEMENT. THIS IS ACHIEVED BY REPLACING THE ELEMENT EACH TIME IT IS CHOSEN. THIS INSURES THAT EACH ELEMENT HAS EXACTLY THE SAME PROBABILITY OF OCCURING ON EACH SUCCESSIVE DRAW. THE OTHER FORM IS KNOWN AS RANDOM SAMPLING WITHOUT REPLACEMENT. IN THIS PROCESS THE CHANCES OF AN ELEMENT'S INCLUSION IN THE SAMPLE INCREASES WITH EACH DRAW SINCE THE ABSOLUTE NUMBER OF ELEMENTS DECREASE EACH TIME.

BASICALLY, THERE ARE TWO PROCEDURES FOR SELECTING A SIMPLE RANDOM SAMPLE. THERE IS A MANUAL PROCESS WHERE A TABLE OF RANDOM NUMBERS IS USED. TABLES OF THIS SORT ARE CONSTRUCT-

ED THROUGH A PROCESS WHICH IS SIMILAR TO DRAWING CHIPS FROM A BOWL. (SEE APPENDIX F)

GENERALLY THE PROCESS IS AS FOLLOWS. ALL ELEMENTS OF THE POPULATION ARE NUMBERED SERIALLY, IN ANY ORDER. EACH ELEMENT SHOULD BE NUMBERED WITH AS MANY DIGITS AS THE NUMBER OF DIGITS IN THE TOTAL POPULATION. (SO FOR A POPULATION OF 1000, THE FIRST NUMBER WOULD BE 0001 THE HUNDREDTH NUMBER WOULD BE 0100 AND SO ON UNTIL YOU REACH 1000). NEXT YOU SELECT A PAGE OF A RANDOM NUMBER TABLE (USUALLY AVAILABLE IN ANY STATISTICAL TEXT BOOK.) BEGINNING ON ANY POINT ON THE PAGE--SELECT A NUMBER WITH THE SAME NUMBER OF DIGITS AS YOUR TOTAL N (FOR 1000--YOU WOULD USE 4 DIGITS--DEMARCATE A COLUMN-VERTICALLY-AND SELECT ELEMENTS FROM YOUR POPULATION WHICH CORRESPOND TO THE NUMBERS IN THE TABLE.) FOR EXAMPLE, IN THIS TABLE BEGINNING AT THE TOP, THE FIRST NUMBER WITH 4 DIGITS WHICH WOULD BE CHOSEN WOULD BE 0450, THEN 0364, ETC. UNTIL YOUR SAMPLE IS COMPLETED. WHEN THE RESEARCHER REACHES THE BOTTOM OF A COLUMN, HE SIMPLY BEGINS AT THE TOP OF THE NEXT COLUMN. IF THE RESEARCHER EXHAUSTS AN ENTIRE SET OF TABLES, HE SIMPLY BEGINS AGAIN. THIS SECOND TIME, HE WOULD DEMARCATE A 4 DIGIT NUMBER BEGINNING WITH THE SECOND COLUMN OF NUMBERS.

THE OTHER METHOD OF SELECTING A SAMPLE OF RANDOM NUMBERS IS VIA A COMPUTER. ESSENTIALLY, THE PROCESS IS THE SAME--EXCEPT THE COMPUTER DOES ALL OF THE WORK.

KISH (1965) IDENTIFIED A SIMPLE RANDOM SAMPLE AS THE BASIC SELECTION PROCESS BUT HE ALSO IDENTIFIES FIVE BASIC MODIFICATIONS WHICH ARE GENERALLY USED.

THE FIRST MODIFICATION WHICH KISH (1965) SPECIFIES IS THE EPSEM METHOD. THE EPSEM (EQUAL PROBABILITY OF SELECTION METHOD) DESCRIBES ANY METHOD IN WHICH EACH ELEMENT HAS AN EQUAL CHANCE OF BEING SELECTED. KISH (1965) SAYS "EPSEM SAMPLING CAN RESULT EITHER FROM EQUAL PROBABILITY SELECTION THROUGHOUT, OR FROM VARIABLE PROBABILITIES THAT COMPENSATE EACH OTHER THROUGH THE SEVERAL STAGES OF MULTI-STAGE SELECTION." (21)

PARTEN (1950) LISTS THE FOLLOWING ITEMS AS BEING ADVANTAGES OF EPSEM.

1) IT IS NOT NECESSARY TO HAVE ADVANCE KNOWLEDGE OF THE CHARACTERISTICS OF THE POPULATION.

2) SINCE THIS METHOD IS BASED ON THE THEORY OF PROBABILITY--THE ANALYST IS ABLE TO ASSESS HIS ACCURACY MORE READILY (WITH THE LEAST AMOUNT OF TIME, EFFORT AND COST).

3) THE ELEMENTS WILL MORE LIKELY BE REPRESENTATIVE OF THE POPULATION THAN WOULD A DELIBERATELY SELECTED SAMPLE.

4) THE LARGER THE RANDOM SAMPLE, THE CLOSER IT WILL RESEMBLE THE POPULATION FROM WHICH IT IS DRAWN.

SOME OF THE DISADVANTAGES PARTEN LISTS ARE:

1) THE POPULATION MUST BE COMPLETELY LISTED. OFTEN THIS IS A VERY DIFFICULT TASK.

2) EACH ELEMENT MUST BE NUMBERED BEFORE SELECTION CAN OCCUR. THIS TASK MAY BE VERY EXPENSIVE AND TIME CONSUMING.

3) THE POSSIBILITY REMAINS THAT THE SAMPLE CHOSEN MAY BE MISLEADING. PARTEN QUOTES STEPHAN AS SAYING "IT PROVIDES BUT LITTLE AID AND COMFORT TO THE VICTIM OF A POOR DRAW IN RANDOM SAMPLING TO ASSURE HIM THAT IN THE LONG RUN THE RANDOM

METHOD OF SELECTION WILL GIVE HIM ERRORS IN ONE DIRECTION JUST AS OFTEN AS IT WILL IN ANOTHER."(226)

4) SIMPLE RANDOM SAMPLES GENERALLY HAVE TO BE LARGER TO INSURE REPRESENTATIVENESS.

5) THE GEOGRAPHIC SPREAD MAY BE TOO VAST TO ALLOW FOR PROPER COVERAGE WITHOUT PROHIBITIVE COSTS.

THE NEXT MODIFICATION WHICH KISH (1965) DISCUSSES IS CLUSTER SAMPLING. CLUSTER SAMPLING BEGINS WITH THE POPULATION BEING DIVIDED INTO GROUPS OR CLUSTERS. THESE CLUSTERS SERVE AS THE PRIMARY SAMPLING UNITS. THESE UNITS ARE THEN SUB-SAMPLED USING SIMPLE RANDOM SELECTION PROCEDURES.

THE OBVIOUS ADVANTAGE OF CLUSTER SAMPLING IS THE REDUCTION OF THE LISTING PROCESS. BABBIE (1975) GIVES THE EXAMPLE OF TRYING TO SAMPLE ALL CHURCH MEMBERS IN THE UNITED STATES. IT WOULD BE IMPRACTICAL IF NOT IMPOSSIBLE TO LIST ALL CHURCH MEMBERS. YET EACH CHURCH (SUB-POPULATION) WOULD BE ABLE TO PROVIDE A LIST OF THEIR MEMBERS. IN A CASE OF THIS SORT, CHURCHES WOULD BE SELECTED USING A STRATIFIED OR SYSTEMATIC SAMPLE AND THEN THE MEMBERS WITHIN EACH CHOSEN CHURCH WOULD BE SELECTED USING SIMPLE RANDOM SAMPLE PROCEDURES.

THUS CLUSTER SAMPLING IS CONSIDERED TO BE AN EXAMPLE OF MULTI-STAGE SAMPLING. THIS METHOD IS PRAISED AS BEING VERY EFFICIENT. BUT THIS EFFICIENCY IS GAINED WITH THE PRICE BEING ACCURACY BABBIE (1975) WRITES "A MULTI-STAGE SAMPLE DESIGN IS SUBJECT TO A SAMPLING ERROR AT EACH OF ITS STAGES. SINCE THE SAMPLE SIZE IS NECESSARILY SMALLER AT EACH STAGE THAN THE TOTAL SAMPLE SIZE, THE SAMPLING ERROR

AT EACH STAGE WILL BE GREATER THAN WOULD BE THE CASE FOR A SINGLE STAGE RANDOM SAMPLE OF ELEMENTS. SECOND, SAMPLING ERROR IS ESTIMATED ON THE BASIS OF OBSERVED VARIANCE AMONG THE SAMPLE ELEMENTS. WHEN THOSE ELEMENTS ARE DRAWN FORM AMONG RELATIVELY HOMOGENEOUS CLUSTERS, THE ESTIMATES OF SAMPLING ERROR WILL BE TOO OPTIMISTIC.

AS WITH ALL OF THE MODIFICATIONS, THERE ARE MANY VARIATIONS WHICH MAY OCCUR. IN CLUSTER SAMPLING, THE CLUSTERS MAY BE OF EQUAL SIZE (AS IN CIGARETTES PER PACK OR AS IN THE CASE WHERE THE RESEARCHER DIVIDES HIS POPULATION INTO EQUAL CLUSTERS) BUT EQUAL SIZED NATURALLY OCCURING CLUSTERS ARE RARELY FOUND IN SOCIETIES. (IN THE EXAMPLE OF THE CHURCH POPULATION, THE SIZE OF THE CHURCHES WILL PROBABLY VARY GREATLY.) EACH OF THE VARIATIONS WILL CREATE NEW PROBLEMS FOR THE RESEARCHER. (SEE KISH, 1965.)

THE THIRD MODIFICATION THAT KISH DEFINES IS THE STRATIFIED SAMPLE. SIMON (1969) WRITES, "THE KEY IDEA IN STRATIFIED SAMPLING IS THAT ALREADY EXISTING KNOWLEDGE IS USED TO DIVIDE THE POPULATION INTO GROUPS SUCH THAT THE ELEMENTS WITHIN EACH GROUP ARE MORE ALIKE THAN ARE THE ELEMENTS IN THE POPULATION AS A WHOLE." (257) THIS ALLOWS THE RESEARCHER TO BE POSITIVE OF INCLUDING AN ADEQUATE SAMPLE WITHIN EACH STRATA. FOR EXAMPLE, IF THE RESEARCHER KNOWS THAT THE AGE GROUP BETWEEN THE AGES OF 25-34 IS MUCH LESS LIKELY TO RESPOND TO A CERTAIN QUESTIONNAIRE THAN OTHER AGE GROUPS, HE MAY CHOOSE TO STRATIFY HIS POPULATION ACCORDING TO AGE GROUPS AND SAMPLE MORE HEAVILY FROM THE GROUP 25-34. THIS THEREBY INCREASES THE LIKELIHOOD OF

OBTAINING AN ADEQUATE SAMPLE FROM THAT GROUP.

IN GENERAL STRATIFIED SAMPLING IS COMPOSED OF THE FOLLOWING STEPS ACCORDING TO KISH (1965): "(A) THE ENTIRE POPULATION IS DIVIDED INTO DISTINCT SUB-POPULATIONS, CALLED STRATA (B) WITHIN EACH STRATUM A SEPARATE SAMPLE IS SELECTED FROM ALL THE SAMPLING UNITS, COMPOSING THAT STRATUM (C) FROM THE SAMPLE OBTAINED IN EACH STRATUM, A SEPARATE STRATUM MEAN (OR OTHER STATISTIC) IS COMPUTED. THESE STRATUM MEANS ARE PROPERLY WEIGHTED TO FORM A COMBINED ESTIMATE FOR THE ENTIRE POPULATION (D) THE VARIANCES ARE ALSO COMPUTED SEPARATELY WITHIN EACH STRATUM AND THEN PROPERLY WEIGHTED AND ADDED INTO A COMBINED ESTIMATE FOR THE POPULATION." (75)

THERE ARE MANY VARIETIES OF STRATIFIED SAMPLING AND HENCE SOME OF THE ABOVE STEPS MAY BE OMITTED.

PARTEN (1950) AGAIN SUMMARIZES THE MAJOR ADVANTAGES AND DISADVANTAGES. THE ADVANTAGES ARE:

1) THE RESEARCHER CAN BE CERTAIN THAT ALL ESSENTIAL GROUPS WILL BE INCLUDED IN THE SAMPLE. THIS INCREASES THE REPRESENTATIVENESS OF THE SAMPLE AND REDUCES THE POSSIBILITY OF AN IMPORTANT VARIABLE (AGE, SEX, RELIGION, ETC.) BEING EXCLUDED.

2) REDUCES THE NUMBER OF CASES REQUIRED TO INSURE REPRESENTATIVENESS.

3) REDUCES THE BIAS WHICH ARISES FROM SELF-SELECTION. AGAIN TO CITE STEPHAN (1953) "BY PROVIDING THAT A FIXED PROPORTION OF THE SAMPLE SHALL COME FROM EACH GEOGRAPHIC AREA OR INCOME CLASS, STRATIFICATION AUTOMATICALLY BRINGS ABOUT

THE REPLACEMENT OF PERSONS LOST TO THE SAMPLE BY PERSONS OF THE SAME STRATUM THUS PARTLY CORRECTING THE BIAS THAT WOULD RESULT IF THERE WERE NO REPLACEMENT OF LOSSES. THE NUMBER OF QUESTIONNAIRES MAILED TO PERSONS IN STRATA WITH LOW RATES OF RETURN CAN BE INCREASED TO COMPENSATE FOR THE LOWER RATES SO THAT THE NUMBER OF USABLE RETURNS RECEIVED FROM EACH STRATUM WILL BE PROPORTIONAL TO THE SIZE OF THE STRATUM. IT MAY ALSO BE POSSIBLE TO INTRODUCE INTO THE STRATIFICATION SCHEME A CLASSIFICATION THAT WILL SEPARATE EFFECTIVELY THE KIND OF PEOPLE FOR WHOM THE LOSS RATES ARE HIGH FROM THOSE FOR WHOM THEY ARE LOW, THEREBY CONTROLLING THE MAJOR PART OF THE BIAS DUE TO LOSSES". (41)

4) STRATIFIED SAMPLES ARE GENERALLY MORE GEOGRAPHICALLY CONCENTRATED WHICH WILL REDUCE COSTS.

THE DISADVANTAGES PARTEN SEES ARE AS FOLLOWS:

1) IN ORDER TO STRATIFY, THE RESEARCH NEEDS TO HAVE PRIOR KNOWLEDGE OF THE VARIABLE FOR WHICH HE INTENDS TO CONTROL. IN OTHER WORDS, IF THE RESEARCHER INTENDS TO STRATIFY BY AGE--HE MUST KNOW THE AGE DISTRIBUTION OF HIS POPULATION.

2) IF THE RESEARCHER USES DISPROPORTIONATE STRATIFICATION, HE MUST WEIGHT HIS RESULTS. IN ORDER TO ACCOMPLISH THIS, HE MUST HAVE INFORMATION REGARDING THE RELATIVE FREQUENCY OF EACH STRATUM WITHIN THE POPULATION.

3) THE RESEARCHER MAY BE UNABLE TO FIND ELEMENTS TO FIT HIS STRATA.

4) DISPROPORTIONATE SAMPLING REQUIRES WEIGHTING WHICH INCREASES THE COST OF THE ANALYSIS OF THE DATA.

THE FOURTH MODIFICATION IS LABELED THE SYSTEMATIC SELECTION SAMPLE. THIS IS A METHOD WHERE EVERY K ELEMENT IS SELECTED. THIS METHOD IS CONSIDERED THE MOST WIDELY KNOWN AND USED PROCEDURE. THE PROCEDURE IS AS FOLLOWS--THE ELEMENTS ARE LISTED, AN INTERVAL IS CHOSEN (K), RANDOM START IS CHOSEN, AND THEN EVERY KTH ELEMENT IS INCLUDED.

THE MAIN DISADVANTAGE IS ENCOUNTERED WHEN THERE IS A SYSTEMATIC OR PERIODIC PROCESS INVOLVED IN THE LISTING. IF, FOR EXAMPLE, FILES ARE KEPT IN CHRONOLOGICAL ORDER, A SYSTEMATIC SELECTION MAY RESULT IN THE SELECTION OF A HOMOGENOUS SAMPLE. ONE METHOD OF AVOIDING THIS PROBLEM IS TO "SHUFFLE" THE LIST OR TO USE A (K+1) OR (K-1) INTERVAL.

THE FINAL METHOD, KISH LISTS AS A MODIFICATION IS THE TWO-PHASE OR DOUBLE-SAMPLING. KISH (1965) DEFINES THIS AS "THE SUBSELECTION OF THE FINAL SAMPLE FROM A PRESELECTED LARGER SAMPLE, THAT PROVIDES FOR IMPROVING THE FINAL SELECTION." (21) THIS APPEARS TO BE THE SAME AS STRATIFIED AND CLUSTER SAMPLING AND THEREFORE ONE WOULD ENCOUNTER THE SAME ADVANTAGES AND DISADVANTAGES.

THE OTHER BROAD CATEGORY OF SAMPLING IS CALLED NON-PROBABILITY SAMPLING.

THESE METHODS OF SELECTING A SAMPLE ARE NOT BASED ON PROBABILITY AND HENCE THERE IS NO KNOWN PROBABILITY OF EACH ELEMENT BEING SELECTED.

KISH (1965) IDENTIFIES THREE DISTINCT TYPES THAT APPLY TO THE SOCIAL SCIENCES. THESE ARE:

1) HAPHAZARD OR FORTUITOUS SAMPLES--THESE INCLUDE SAMPLES

OF VOLUNTEERS, MEMBERS OF CLASSES AND MEDICAL PHENOMENA. THE PROBLEM ARISES WHEN GENERALIZATIONS ARE DRAWN FROM THESE SAMPLES TO THE ENTIRE POPULATION.

2) EXPERT CHOICE OR PURPOSIVE OR JUDGEMENT SAMPLES. THESE ARE SAMPLES THAT ARE CHOSEN BY EXPERTS AND ARE USUALLY CONSIDERED TO BY TYPICAL EXAMPLES. A COMMON PRACTICE IS TO HAVE AN EXPERT SELECT A TYPICAL CITY TO SAMPLE. THIS CITY IS SUPPOSED TO BE REPRESENTATIVE OF THE ENTIRE NATION. THE PROBLEM IS APPARENT--WHO CAN SAY WHAT IS A TYPICAL CITY? EVEN THE EXPERTS DIFFER! OF COURSE, THE ADVANTAGE IS THAT THE COSTS ARE REDUCED.

3) QUOTA SAMPLING IS A METHOD IN WHICH THE INTERVIEWERS ARE INSTRUCTED TO OBTAIN INFORMATION FROM A SPECIFIC GROUP. THE GROUPS ARE TYPICALLY BASED ON DEMOGRAPHIC VARIABLES. THE CONCEPT IS TO BUILD A SAMPLE WHICH IS REPRESENTATIVE OF THE POPULATION FROM WHICH IT IS DRAWN. FOR EXAMPLE, THE INTERVIEWERS MAY BE INSTRUCTED TO INCLUDE X NUMBER OF BLACKS AND X NUMBER OF WHITES IN HIS SAMPLE. OBVIOUSLY, THIS LEAVES MUCH OF THE "SAMPLING" TO THE INTERVIEWERS, SO CONSEQUENTLY, YOUR SAMPLE IS HIGHLY DEPENDENT ON THE CAPABILITY OF YOUR FIELD CREW.

EACH OF THESE METHODS RELIES HEAVILY ON SOME PRIOR KNOWLEDGE OF THE POPULATION AND ARE SEVERELY LIMITED IN REGARDS TO BEING GENERALIZED TO THE ENTIRE POPULATION.

(APPENDIX G IS A SUMMARY OF THE BASIC METHODS OF SELECTING A SAMPLE. THIS IS TAKEN FROM GEORGE LEWIS'S BOOK, FISTFIGHTS IN THE KITCHEN.)

THE BASIC PREMISE OF SAMPLING IS TO DRAW SOME CONCLUSION ABOUT THE POPULATION FROM WHICH THE SAMPLE IS DRAWN. THEREFORE, IT IS ESSENTIAL THAT THE SAMPLE BE TRULY REPRESENTATIVE OF THE POPULATION. "A SAMPLE IN WHICH ALL OF THE POPULATION IS NOT REPRESENTED OR IS NOT REPRESENTED FAIRLY--WITHOUT THE RESEARCHERS' KNOWLEDGE--IS CALLED A BIASED SAMPLE." (SIMON, 1969:110)

THERE ARE BASICALLY TWO CAUSES OF A BIASED SAMPLE. THE FIRST SOURCE OF BIAS IS CALLED SAMPLING ERROR. THIS ARISES WHEN THE SAMPLE IS NOT REPRESENTATIVE OF THE ENTIRE POPULATION. WHILE RANDOM SELECTION PROCEDURES INCREASE THE LIKELIHOOD OF SELECTING A REPRESENTATIVE SAMPLE, THEY ARE NOT FOOL-PROOF. FOR EXAMPLE, LABOVITZ AND HAGEDORN (1975) REPORT THAT IT IS POSSIBLE TO RANDOMLY SELECT A SAMPLE OF 1% OF THE ADULT POPULATION IN THE UNITED STATES AND NOT INCLUDE ANYONE OVER 80 YEARS OF AGE, OR TO SELECT ONLY MALES. THEY WRITE, "THIS POSSIBILITY IS SO REMOTE THAT, IT IS NEARLY NON-EXISTENT, BUT THE POINT IS THAT EVEN WITH THE BEST SAMPLING PROCEDURES, CHANCE PRODUCES SOME ERROR." (89)

THE OTHER MAJOR CAUSE OF BIAS IDENTIFIED BY SIMON IS WHAT HE CALLS "NON-RESPONSE BIAS". SIMON (1969) WRITES "BY THIS NAME, I REFER TO ALL SITUATIONS IN WHICH SOME PART OF THE RELEVANT UNIVERSE (AND THEREFORE SOME PORTION OF A SAMPLE DRAWN FROM THAT UNIVERSE) IS NOT AVAILABLE FOR STUDY."(117)

BIRNBAUM (1950) WRITES THAT THE "MAGNITUDE OF THE BIAS RESULTING FROM INCOMPLETE INTERVIEWING OF THE RANDOMLY SELECTED SAMPLE IN MANY INSTANCES DWARFS THE SAMPLING ERROR BY COMPARISON." (98) YET SIMON CONTINUES TO SAY THAT RESPONSE

FROM 100% OF YOUR SUBJECTS IS NOT COMPLETELY NECESSARY. HE SAYS FOR MOST PURPOSES IT IS NOT VITAL THAT YOU CONTACT ALL SUBJECTS. "YOU NEED NOT WORRY MUCH ABOUT ERROR IN ESTIMATING THE UNIVERSE AS A WHOLE IF YOU GAIN ACCESS TO NEARLY ALL YOUR SUBJECTS." (118) HE GOES FURTHER TO STATE THAT THE RESEARCHER IS PROBABLY SAFE IN ASSUMING THAT THE NON-RESPONDENTS OCCUR RANDOMLY WITHIN THE POPULATION.

WHILE SIMON MAY FEEL SECURE WITH HIS THEORY OF RANDOMLY DISTRIBUTED NON-RESPONDENTS, OTHERS HAVE NOT BEEN SO CONFIDENT.

ELLIS (1970) WRITES, NON-RESPONSE BIAS CAN BE ESTIMATED AS A FUNCTION OF "(A) THE PROPORTION OF NON-RESPONDENTS IN THE TOTAL SAMPLE AND (B) THE EXTENT TO WHICH THERE IS A SYSTEMATIC DISCREPANCY BETWEEN RESPONDENTS AND NON-RESPONDENTS ON VARIABLES RELEVANT TO THE INQUIRY. (103)

IT IS THE MEASUREMENT OF SECTION (B) WHICH PRESENTS THE PROBLEM. FIRST IT IS NECESSARY TO DETERMINE WHICH OF THE VARIABLES ARE RELEVANT AND SECONDLY, THE RESEARCHER MUST HAVE INFORMATION ON THE TOTAL SAMPLE IN ORDER TO COMPARE THE NON-RESPONDENTS.

EVEN IF NO DIFFERENCES ARE DISCOVERED BETWEEN THE NON-RESPONDENTS AND THE TOTAL POPULATION, THIS DOES NOT INSURE THAT THE SAMPLE (RESPONDENTS) IS NOT BIASED.

GIVEN THESE PROBLEMS, IT IS OBVIOUS THAT THE RESEARCHER MAY BE SEVERELY LIMITED IN THE AMOUNT OF GENERALIZATION HE CAN INFER FROM A PARTIAL SAMPLE.

WE WOULD LIKE TO EXAMINE SOME OF THE POSSIBLE SOLUTIONS OR METHODS OF DEALING WITH THE PROBLEM OF NON-RESPONSE BIAS.

DANIEL (1975) HAS CLASSIFIED NON-RESPONDENTS INTO THE FOLLOWING CATEGORIES:

1) NOT AT HOME--THIS CATEGORY CAN BE FURTHER DIVIDED INTO SUBCATEGORIES OF "NOBODY AT HOME" (OR NO ANSWER FOR TELEPHONE SURVEYS), AND THE "RESPONDENT ABSENT" (WHICH IS ESPECIALLY APPROPRIATE IN CASES WHERE SPECIFIC INDIVIDUALS MUST BE INTERVIEWED). FACOTRS WHICH AFFECT THE CATEGORY ARE THE TIME OF DAY THE ATTEMPT IS MADE AND THE NATURE OF THE RESPONDENT.

POLITZ AND SIMMONS HAVE DEVELOPED A WEIGHTING PROCEDURE WHICH INVOLVES THE PROBABILITY OF FINDING A RESPONDENT AT HOME AND THEN WEIGHTING HIS RESPONSE RELATIVE TO THIS PROBABILITY. THE PROCEDURE IS:

(A) FOR THE PERIOD DURING WHICH INTERVIEWS ARE TO BE CONDUCTED, EACH PERSON IS VISITED ONCE, AND ONLY ONCE, AT A RANDOMLY SELECTED TIME.

(B) EACH PERSON CONTACTED IS ASKED WHETHER HE WAS AT HOME AT A RANDOMLY SELECTED TIME DURING THE INTERVIEW PERIOD ON EACH OF FIVE DAYS JUST PRECEDING THE DAY OF THE INTERVIEW. THIS INFORMATION ALLOWS FOR THE COMPUTATION OF AN ESTIMATE OF THE PROPORTION OF TIME THE RESPONDENT IS HOME DURING INTERVIEWING HOURS. THE FIVE TIMES ABOUT WHICH INFORMATION IS OBTAINED, PLUS THE TIME OF INTERVIEW, YIELD SIX TIMES FOR WHICH IT IS KNOWN WHETHER OR NOT THE RESPONDENT WAS HOME.

(C) QUESTIONNAIRES ARE DIVIDED INTO SIX GROUPS DEPENDING ON THE ESTIMATED PROPORTION OF TIME THE RESPONDENTS ARE AT HOME DURING INTERVIEWING HOURS. GROUP ONE WILL CONTAIN

THOSE RESPONDENTS ESTIMATED TO BE AT HOME 1/6 OF THE TIME, GROUP TWO WILL CONSIST OF THOSE RESPONDENTS ESTIMATED TO BE AT HOME 2/6 OF THE TIME, AND SO ON TO GROUP 6 WHICH CONSISTS OF THOSE RESPONDENTS ESTIMATED TO BE AT HOME ALL THE TIME DURING INTERVIEWING HOURS.

(D) FOR THE VARIABLE OF INTEREST, THE SAMPLE ESTIMATE IS OBTAINED BY WEIGHTING THE RESULTS FOR EACH GROUP BY THE RECIPROCAL OF THE ESTIMATED PROPORTION OF TIME RESPONDENTS IN THE GROUP ARE AT HOME. THE WEIGHTS FOR GROUPS ONE THROUGH SIX, RESPECTIVELY ARE 6/1, 6/2, 6/3...,6/6."(KISH,1965: 298)

BUT GENERALLY, THIS PROBLEM CAN BE RESOLVED WITH THE USE OF A "CALL BACK PROCEDURE." THIS PROCEDURE INVOLVES A NEW ATTEMPT TO REACH THE "NOT AT HOME" (OR CALL BACK WHEN THE LINE IS BUSY). KISH (1965) SAYS THAT GENERALLY THREE CALLS WILL BRING THE RESPONSE RATE UP TO AN ACCEPTABLE RATE OF UNDER 10% . (537)

THIS ALSO MAY INVOLVE ADDITIONAL "WAVES" IN THE MAIL SURVEYS. EACH OF THE WAVES WILL BRING SOME INCREASE IN THE NUMBER OF RESPONSES. (ENDO, 1975: 237)

2) REFUSALS--THESE ARE DEFINED BY KISH (1965) AS THOSE WHO ARE UNOBTAINABLE--REPEATED ATTEMPTS WILL NOT BRING A RESPONSE. OF COURSE, THIS IS INFLUENCED BY A WIDE VARIETY OF FACTORS SUCH AS RAPPORT BETWEEN INTERVIEWER AND INTERVIEWEE, THE QUALITY AND FORMAT OF QUESTIONNAIRE, THE AMOUNT OF PERSONALIZATION, THE NATURE OF THE INQUIRY, AND THE PERSISTENCE OF THE INTERVIEWER. THERE ARE SEVERAL PROPOSED METHODS OF

HANDLING THIS PROBLEM. KISH (1965) DISCUSSES SUCH APPROACHES AS SUBSTITUTION OF NEW RESPONDENTS OR REPLACEMENTS. UNFORTUNATELY, NEITHER OF THESE APPROACHES WORKS WELL BECAUSE YOU ARE NOT GETTING THE ORIGINAL MEMBERS OF YOUR SAMPLE AND YOU HAVE NO ASSURANCE THAT THE SUBSTITUTES OR REPLACEMENTS WILL RESPOND IN THE SAME WAY AS THE ORIGINAL MEMBERS. IN FACT, IT IS LOGICAL TO EXPECT THAT THE NEW RESPONDENTS WILL RESEMBLE THE ORIGINAL RESPONDENTS MORE THAN THE NON-RESPONDENTS.

3) THOSE UNABLE TO RESPOND--THIS GROUP CONSISTS OF POTENTIAL RESPONDENTS WHO DUE TO ILLNESS, A LANGUAGE BARRIER, DEATH, OR ILLITERACY ARE UNABLE TO RESPOND. THESE PRESENT THE SAME PROBLEMS AS THE REFUSALS.

4) UNLOCATED--INCLUDES THOSE WHO HAVE MOVED, OR ARE INACCESSIBLE BECAUSE OF WEATHER CONDITIONS, OR REFUSAL OF INTERVIEWERS TO GO INTO A PARTICULAR AREA. THESE TOO, MUST BE TREATED AS REFUSALS.

IN ADDITION TO THE ABOVE, I WOULD LIKE TO SUMMARIZE OTHER APPROACHES WHICH HAVE BEEN UTILIZED TO CORRECT FOR BIAS WHICH IS DUE TO NONRESPONSE.

HANSEN AND HURWITZ (1946) PROPOSED A METHOD WHICH INVOLVES SUBSAMPLING THE NONRESPONDENTS. THEIR METHOD WAS DEVELOPED FOR USE WITH MAIL SURVEYS BUT MAY BE EXTENDED TO OTHER TYPES OR SURVEYS. BRIEFLY THEIR METHODS ARE AS FOLLOWS:

"(A) A RANDOM SAMPLE OF PROSPECTIVE RESPONDENTS IS SELECTED FROM THE POPULATION OF INTEREST.

(B) EACH IS SENT A QUESTIONNAIRE TO BE COMPLETED AND RETURNED BY MAIL.

(C) AFTER A PREDETERMINED LENGTH OF TIME HAS ELAPSED THE NON-RESPONDENTS ARE IDENTIFIED.

(D) A SUBSAMPLE OF NONRESPONDENTS IS SELECTED AT RANDOM.

(E) INFORMATION IS SOUGHT FROM THIS SUBSAMPLE OF INITIAL NONRESPONDENTS BY MEANS OF PERSONAL INTERVIEW.

(F) FINALLY, DATA FROM THE TWO GROUPS OF RESPONDENTS ARE COMBINED TO PROVIDE UNBIASED ESTIMATES OF THE PARAMETERS OF INTEREST." (KISH, 1965: 295)

FROM RECENT EXPERIENCE,WE CAN COMMENT ON THIS PROCEDURE. IT IS VERY TIME-CONSUMING, AND COSTLY. YET, IT DOES PROVIDE SOME EMPIRICAL BASIS FOR CONCLUDING THAT YOUR SAMPLE IS BIASE OR NOT BIASED.

THERE ARE MANY VERY STATISTICAL, TECHNICAL WEIGHTING PROCEDURES WHICH MAY BE PERFORMED DURING THE ANALYSIS OF THE FINAL DATA. THESE ALL ASSUME THAT THE RESEARCHER HAS THE ABILITY TO MEASURE DIFFERENCES BETWEEN THE RESPONDENTS AND THE NON-RESPONDENTS ON THE PERTINENT VARIALES. THESE PROCEDURES "IMPLY AN ADDED BURDEN DURING COMPUTATION AS WELL AS A PROBABLE INCREASE IN VARIANCE".(MANDELL, 247)

OTHER WEIGHTING PROCEDURES MAY BE USED IN CONJUNCTION WITH OTHER CORRECTION METHODS SUCH AS POLITZ AND SIMMONS' AND THE HANSEN METHOD. (SEE APPENDIX I)

AND FINALLY, ELLIS (1970) AND OTHERS HAVE DEVELOPED A METHOD WHICH TREATS LATE RESPONDENTS AS BEING VERY SIMILAR TO NONRESPONDENTS. "THIS METHOD PRESUMES A CONTINIUM OF RESISTANCE TO TAKING QUESTIONNAIRES AND INTERVIEWS ON A PART-

ICULAR SURVEY TOPIC...LATE RESPONDENTS WHO PARTICIPATE ONLY AFTER AN APPRECIABLE FOLLOW-UP EFFORT CAN BE REGARDED AS 'ALMOST NONRESPONDENTS', AND, THUS, AS CLOSELY SIMILAR TO THOSE WHO DO NOT REPLY." (104)

THIS METHOD HAS INHERENT PROBLEMS SUCH AS "FAILURE TO USE A PROPER CUTTING POINT FOR DESIGNATING WHO ARE TO BE TREATED AS NONRESPONDENTS." IN GENERAL, THIS METHOD MAY BE MOST USEFUL FOR DETERMINING PROBABLE DIRECTION OF THE BIAS, BUT NOT ITS ABSOLUTE MAGNITUDE.

VI. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS BASED ON OUR STUDY WOULD SUGGEST THAT THE METHODS WE HAVE PROPOSED AND TESTED REPRESENT A VIABLE ALTERNATIVE TO THE DILEMMA POSED IN THE SECTION ABOVE "SUBSTANTIVE PROBLEMS". OUR RESULTS INDICATE THAT THE EFFECTS OF UNDERREPRESENTATION OF GROUPS, SUCH AS THOSE WITH LOW GPA'S OR THOSE BETWEEN 25 AND 34, CAN BE OVERCOME MOST COST EFFECTIVELY AND METHODOLOGICALLY SOUNDLY BY:

1. KEEPING SAMPLING AND ANALYSIS COSTS DOWN BY USING SIMPLE RANDOM SAMPLES OF LARGE POPULATION,
2. KEEPING DATA GATHERING COSTS DOWN BY (A) USING MAIL SURVEYS TO GATHER THE BULK OF THE DATA AND (B) CORRECTING FOR UNDERREPRESENTATION DUE TO LOW MAIL RESPONSE RATES BY PERIODICALLY CONDUCTING IN PERSON OR TELEPHONE INTERVIEWS WITH A SUB-SAMPLE OF NON-RESPONDENTS.

FOR THE SECOND YEAR'S SURVEY WE USED THREE DIFFERENT TYPES OF MAILING, BULK POSTAGE, FIRST CLASS AND CERTIFIED MAIL.

BULK RATES WERE USED FOR THE INITIAL MAILING. THE MAJOR ADVANTAGE IS THAT BULK POSTAGE IS THE LEAST EXPENSIVE METHOD. THIS METHOD SHOULD BE EFFECTIVE TO GET RESPONSES FROM THOSE WHO WILL RESPOND READILY TO ANY SURVEY MAILED. THE DISADVANTAGES ARE THAT BULK MAIL IS NOT FORWARDED NOR RETURNED TO SENDER. THIS RESULTS IN NO NEW CHANGES OF ADDRESS.

FIRST CLASS MAIL IS MORE EXPENSIVE BUT MAY ELIMINATE BOTH OF THE DISADVANTAGES OF BULK MAIL. THE SENDER MAY HAVE FIRST CLASS MAIL FORWARDED AND MAY ALSO REQUEST ADDRESS CORRECTIONS FOR THOSE THAT ARE FORWARDED. THE DISADVANTAGE, OF COURSE, IS COST INCREASE.

THE FINAL METHOD UTILIZED WAS CERTIFIED MAIL. IN THEORY CERTIFIED MAIL SHOULD INCORPORATE ALL OF THE ADVANTAGES OF FIRST CLASS MAIL PLUS THE ADVANTAGE OF HAVING THE LETTER DELIVERED TO THE PERSON TO WHOM IT IS ADDRESSED.

IN PRACTICE, WE FOUND THAT THE USE OF CERTIFIED MAIL IS NOT WORTH THE EXPENSE. FIRST, THE DELIVERY RATE FOR CERTIFIED MAIL WAS ONLY 75%, WHEREAS FOR THE FIRST CLASS THE DELIVERY RATES RANGED FROM 87.5% TO 82.6%. WE FELT THIS LOW DELIVERY RATE MAY HAVE BEEN CAUSED BY THE POST OFFICE'S LACK OF PERSISTANCE IN DELIVERING THESE LETTERS.

FURTHERMORE, ATTEMPTS TO INCREASE RESPONSE RATES BY THE USE OF CERTIFIED MAIL MAY IN FACT, ALIENATE THE RESPONDENT. IT SEEMS THAT IF A CERTIFIED LETTER IS NOT RECEIVED AT THE ADDRESS, THE ADDRESSEE IS NOTIFIED TO PICK UP A CERTIFIED LETTER AT THE POST OFFICE. THE FOLLOWING IS AN EXAMPLE OF A RESPONSE FROM ONE OF OUR NON-RESPONDENTS.

Mr. Wilkinson,

After spending 45 minutes of my lunch hour at the post office, I did not appreciate finding another one of your questionnaires. I regret that I have no interest at all in answering any of your questions and I would not spend one further minute in looking at this damn booklet.

Please save your postage and my time by taking my name off of your mailing list as I have no interest in being further harassed by College of the Mainland

Thank you,

BASED ON OUR EXPERIENCES, WE WOULD NOT RECOMMEND THE USE OF CERTIFIED MAIL FOR FOLLOW-UP SURVEYS.

OUR RECOMMENDATION CONCERNING MEASUREMENT OF NON-RESPONSE BIAS, IS AS FOLLOWS:

1) NON-RESPONSE BIAS SHOULD BE MEASURED EACH YEAR UNTIL SOME CONSISTANT DIFFERENCES ARE FOUND.

2) ONCE A CONSISTENT DIFFERENCE IS DISCOVERED, SERIOUS CONSIDERATION SHOULD BE GIVEN TO SOME METHOD FOR CORRECTING (I.E. WEIGHTING).

BIBLIOGRAPHY

Ackoff, Russell L.. "Sampling Chart', FIST-FIGHTS IN THE KITCHEN: MANNERS AND METHODS IN SOCIAL RESEARCH. Pacific Palisades: Goodyear Publications Co., Inc. 1975.

Anderson, C. Leroy and Halford Larry J.. "A Four State Comparision of Variable Sampling and Data Collection Procedures", PACIFIC SOCIOLOGICAL REVIEW. Vol. 13, No. 2. Spring 1970. pgs. 149-155.

Anderson, Scarvia B. and Ball, Samuel, and Murphy, Richard T. and Associates. ENCYCLOPEDIA OF EDUCATIONAL EVALUATION. Jossey-Bass Publishers, San Francisco. 1975. pgs. 338-345.

Armstrong, J. Scott. "Monetary Incentives In Mail Surveys", JOURNAL UNKNOWN.

Astin, Alexander W. and Molm, Linda D.. "Correcting for Nonresponse Bias in Followup Surveys", Los Angeles: University of California. 1975. pgs. 1-7.

Babbie, Earl R.. THE PRACTICE OF SOCIAL RESEARCH. Wadsworth Publishing Co. Inc.. Belmont, California. 1975. pg. 135-191.

Birnbaum, Z.W. and Sirken, Monroe G.. "Bias Due to Non-Availability in Sampling Surveys". JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION. Vol. 45. American Statistical Association, Washington D.C.. pgs. 249-252. 1950.

Blumberg, Herbert H., Fuller, Carolyn, and Hare, A. Paul. "Response Rates In Postal Surveys", THE PUBLIC OPINION QUARTERLY. 1974. pgs. 113-123.

Chein, Isidor. "An Introduction to Sampling", Journal Unknown.

Christenson, James A.. "A Procedure For Conducting Mail Surveys With the General Public", JOURNAL OF COMMUNITY DEVELOPMENT SOCIETY. Vol. 6, No. 1, Spring 1975. pgs. 135-145.

DANIEL, WAYNE W., "NONRESPONSE IN SOCIOLOGICAL SURVEYS: A REVIEW OF SOME METHODS FOR HANDLING THE PROBLEM", SOCIOLOGICAL METHODS AND RESEARCH, VOL. 3, NO. 3, FEBRUARY, 1975. SAGE PUBLICATIONS, INC., PGS. 291-307.

DENZIV, NORMAN K., THE RESEARCH ACT: A THEORETICAL INTRODUCTION TO SOCIOLOGICAL METHODS. ALDINE PUBLISHING CO., CHICAGO. 1970. PGS. 81-97.

DILLMAN, DON A., "INCREASING MAIL QUESTIONAIRE RESPONSE IN LARGE SAMPLES OF THE GENERAL PUBLIC", THE PUBLIC OPINION QUARTERLY. VOL. 36, NO. 2, SUMMER 1972. PGS.254-257.

DILLMAN, DON A., CHRISTENSON, JAMES A., CARPENTER, EDWIN H., AND BROOKS, RALPH M. "INCREASING MAIL QUESTIONNAIRE RESPONSE: A FOUR STATE COMPARISON", AMERICAN SOCIOLOGICAL REVIEW; VOL.39, OCTOBER, 1974,744-756.

ELLIS, ROBERT A., ENDO, COHEIN M., AND ARMER, J. MICHAEL. "THE USE OF POTENTIAL NON-RESPONDENTS FOR STUDYING NONRESPONSE BIAS"; PACIFIC SOCIOLOGICAL REVIEW:VOL. 13, NO.2, SPRING 1970, 103-109.

ENDO, CALVIN M. "THE PROBLEM OF NONRESPONSE IN SURVEY RESEARCH" FIST-FIGHTS IN THE KITCHEN: MANNERS AND METHODS IN SOCIAL RESEARCH, PACIFIC PALISADES, CALIF:GOODYEAR PUBLISHING CO., INC., 1975.

FERGUSON, GEORGE A. STATISTICAL ANALYSIS IN PSYCHOLOGY AND EDUCATION, NEW YORK: MCGRAW HILL, 1966.

FULLER, CAROL H. "WEIGHTING TO ADJUST FOR SURVEY NONRESPONSE" PUBLIC OPINION QUARTERLY,VOL.38, NO.2, SUMMER 1974,PPS. 239-246.

HANSEN, MORRIS H., AND HURWITZ, WILLIAM N. "THE PROBLEM OF NONRESPONSE IN SAMPLE SURVEYS",JOURNAL OF AMERICAN STATISTICAL ASSOCIATION,VO. 41, 1946, PPS.516-529.

HANSEN, MORRIS H., HURWITZ, WILLIAM N., MADOW, WILLIAM G. SAMPLE SURVEY METHODS AND THEORY, NEW YORK:JOHN WILEY AND SONS, INC., 1953.

HAWKINS, DARNELL F. "ESTIMATION OF NONRESPONSE BIAS" SOCIOLOGICAL METHODS AND RESEARCH, VO. 3, NO. 4, MAY 1975, PPS. 461-485.

HAYS, WILLIAM L. STATISTICS FOR THE SOCIAL SCIENCES, NEW YORK: HOLT, RINEHART AND WINSTON, INC., 1973.

HENDRICKS, WALTER A. "ADJUSTMENT FOR BIAS CAUSED BY NON-RESPONSE IN MAILED SURVEYS", AGRICULTURAL ECONOMICS RESEARCH, VOL. I, NO. 2, APRIL 1949.

KERLINGER, FRED N., FOUNDATIONS OF BEHAVIORAL RESEARCH, NEW YORK:HOLT, RINEHART AND WINSTON, INC., 1964.

KISH, LESLIE, SURVEY SAMPLING, NEW YORK:JOHN WILEY AND SONS, INC., 1965.

LABOVITZ, SANFORD AND HAGEDORN, ROBERT "THE POPULATION AND SAMPLING" FIST FIGHTS IN THE KITCHEN: MANNERS AND METHODS IN SOCIAL RESEARCH, PACIFIC PALISADES, CALIF.:GOODYEAR PUBLISHING CO., INC., 1975.

LEWIS, GEORGE H. (ED.) FIST FIGHTS IN THE KITCHEN: MANNERS AND METHODS IN SOCIAL RESEARCH; PACIFIC PALISADES, CALIF.: GOODYEAR PUBLISHING CO., INC., 1975.

LINSKY, ARNOLD S. "STIMULATING RESPONSE TO MAILED QUESTIONNAIRES: A REVIEW" JOURNAL UNKNOWN.

MANDELL, LEWIS "WHEN TO WEIGHT:DETERMINING NONRESPONSE BIAS IN SURVEY DATA" JOURNAL UNKNOWN.

PARTEN, MILDRED SURVEYS, POLLS AND SAMPLES: PRACTICAL PROCEDURES NEW YORK: HARPER AND BROTHERS, 1950.

PEEL, JOHN AND SKIPWORTH, GORDON, "SAMPLE SIZE: AN INNOVATORY PROCEDURE IN SURVEY ANALYSIS", SOCIOLOGY, VO. 4, 1970.

SIMON, JULIAN L. BASIC RESEARCH METHODS IN SOCIAL SCIENCE, THE ART OF EMPIRICAL INVESTIGATION, NEW YORK: RANDOM HOUSE, 1969.

STEPHAN, FREDERICK F., AND MCCARTHY, PHILLIP J., SAMPLING OPINIONS: AN ANALYSIS OF SURVEY PROCEDURES, NEW YORK: JOHN WILEY AND SONS, INC., 1958.

SUCHMAN, EDWARD A., "AN ANALYSIS OF BIAS IN SURVEY RESEARCH" THE PUBLIC OPINION QUARTERLY, VOL. 26, NO. 1, SPRING 1962, PPS. 102-111.

YATES, FRANK, SAMPLING METHODS FOR CONSENSUS AND SURVEYS, LONDON: CHARLES GRIFFIN AND COMPANY, LIMITED, 1960.

APPENDIX A

office of educational research

college of the mainland

October 7, 1974

M E M O R A N D U M

TO: All Professional Staff

FROM: Larry Wilkinson and Lee Yom

SUBJECT: Follow-up Survey Questionnaire

Enclosed is a working draft of the questionnaire we propose to send to a random sample of Spring 1972 students. We would appreciate your comments and suggestions for changes and additional questions; in particular, we need to know if we are getting the follow-up information you need in your division, course or program.

Many of the questions and response options have been used in follow-up surveys at other two-year institutions, which adds to our confidence in their reliability, but also may cause them to be not quite applicable at College of the Mainland. Since almost all of you have been here longer than almost all of us, we really need your help. We would especially appreciate your suggestions on the best way to ask about the effectivness of the course document, behaviorally specified learning objectives approach to insturction vis-a-vis degree of success and coping ability in other academic and work environments after leaving here.

Any suggestions about how to ask about other important areas of the "quality of life" which may be affected by attending College of the Mainland would be greatly appreciated also.

Thanks for your help, and would you please send us your comments before Monday, October 14, 1974? The envelopes are ready to stuff as soon as the questionnaire is revised.

Copies of the revised questionnaire will be available by October 21 at our office, LRC-Suite B Room 234. We plan to keep you informed about research at College of the Mainland and we appreciate your involvement and cooperation.

8001 palmer highway texas city, texas 77590 (713) 938-1211

office of educational research

college of the mainland

(DATE)

PLEASE READ CAREFULLY:

You have been selected as a representative of your class at College of the Mainland to assist us in bringing your college records up to date. This follow-up study will provide valuable information about what happens to our students after they leave College of the Mainland and to evaluate the progress of this college in serving students in numerous ways.

Your name will not be connected in any way with your answers. Answers will be put onto cards for group analysis. However, we need your name in order to keep records of the mailing list.

Please follow directions as carefully as possible, completing each question as directed. Your cooperation will greatly be appreciated.

DIRECTIONS - PLEASE READ CAREFULLY:

Each item in this questionnaire is followed by 2 or more response choices. Choose a response that is the most accurate for you and record the number of the response in the space provided at the left of the item number.

EXAMPLE

Item number two (2) would correctly appear as follows for male students:

1 2. Sex

1. Male 2. Female

Please proceed in this manner to respond to each question.

PLEASE RETURN THE COMPLETED QUESTIONNAIRE

The attached envelope has been addressed and postage prepaid for your convenience. Please enclose your completed questionnaire and drop it in the mail as soon as possible.

8001 palmer highway texas city, texas 77590 (713) 938-1211

Your name: _____
(Last Name) (First Name) (Middle) (Maiden*)

*It is very important for females, who married after leaving College of the Mainland or after first enrollment, to indicate their maiden names under which they were registered at this College.

_____1. Age

1. 18 or younger 2. 19 to 21 3. 22 to 24 4. 25 to 34
5. 35 to 44 6. 45 to 54 7. 55 to 64 8. 65 or older

_____2. Sex

1. Male 2. Female

_____3. Race or ethnic group

1. White 2. Black 3. Oriental, 4. Spanish surname
5. American Indian

_____4. What was (is) your approximate grade point average in College of the Mainland?

1. Less than 1.0 2. 1.0 to 1.4 3. 1.5 to 1.9 4. 2.0 to 2.4
5. 2.5 to 2.9 6. 3.0 to 3.4 7. 3.5 to 3.9 8. 4.0

_____5. What did you hope to accomplish at College of the Mainland?

1. Complete a transfer degree (AA or AS)
2. Complete a credit diploma
3. Complete credit certificate
4. Complete credits only
5. Complete non-credit diploma
6. Complete non-credit certificate
7. Complete non-credit courses only
8. Take a course (courses) that would help me qualify for a job

_____6. Have you accomplished this?

1. Yes, graduated from the College of the Mainland
2. Yes, graduated from another two-year college other than COM
3. No, but still pursuing this objective
4. No, but still hope to in the future
5. No, but changed my objective to one I feel is more appropriate
6. No, and have no plans to pursue any level of education further
7. Yes, I obtained a job

_____7. If your answer is 1 for the above question, indicate what type of degree you received from College of the Mainland.

1. Transfer degree (eligible to enter junior year of 4-year college)
2. Vocational-technical degree (prepared you to enter immediate employment in a semi-professional or technical occupation)
3. General associate degree - avocational (not prepared to transfer to 4-year college, and not for employment in a voca-tech field, but just a general education degree)

_____8. What was your principal reason for not returning to College of the Mainland?

1. Does not apply; I am still a student at College of the Mainland
2. Completed the program or courses for which I was enrolled
3. Disappointed in the program for which I was enrolled
4. Found the work more difficult than I had anticipated
5. Felt the instruction was inadequate
6. Unable to finance further education
7. Active military service
8. Other(please list) _____

If you left College of the Mainland without completing a degree or program, please indicate each item below if you would have stayed at the COM or would return to COM if any of the following were done by the institution. Answer by indicating one: 1=Yes, I would return; 2=Maybe, I would return; 3=No, I would not return.

_____9. Financial aid or on-campus jobs provided

_____10. Change in or addition to College of the Mainland curriculum or course requirements.

_____11. Public transportation such as school buses were provided

_____12. Instruction method improved

_____13. Grading system changed

_____14. Campus recreational, social, or extra-curricular activities increased.

_____15. Child care center provided

_____16. Which one of the following statements best describes your feeling about your educational experience at College of the Mainland?

1. Very satisfied 2. Satisfied 3. Neutral
4. Disappointed 5. Very disappointed

How would you rate the overall quality of each of the following at College of the Mainland?

1. Excellent 2. Good 3. Fair 4. Poor

_____17. Teaching staff _____18. Counseling staff

_____19. Academic standards _____20. Variety of courses offered

_____21. Administration

Please indicate in what ways your experience at College of the Mainland could have been more helpful to you by rating the following items.

1 = strongly agree 2 = agree 3 = neutral 4 = disagree
5 = strongly disagree

_____22. A closer relationship could exist between students and instructor

_____23. A wider range of potential fields of study could be offered

_____24. More supervision and guidance in classwork could be offered

_____25. There could be more helpful guidance in choice of programs and explanation of courses

_____26. More time could be allowed for student activities

_____27. There could be more integration of student activities into the total college program

_____28. More students could be encouraged by the College to participate in student activities

Indicate if the item describes your present activities

1 = Yes 2 = No

_____29. Employed

_____30. Employed part-time

_____31. Still enrolled at College of the Mainland

_____32. Student at another 2 year college

_____33. Student at senior institution

_____34. Military service

_____35. Housewife

PART B

Please complete if you are employed, or if you have been employed since leaving College of the Mainland. If you have not been employed, skip to PART C.

_____36. How would you evaluate the training you had at COM as it related to your job?

1 = excellent 2 = good 3 = adequate 4 = poor

Did courses at College of the Mainland help you in any of the following ways?

1 = agree 2 = disagree

_____37. Helped me obtain a job

_____38. Helped me perform on the job

_____39. Helped me advance on my job

_____40. Prepared me for a job that is available in my community

_____41. Are you satisfied with your work position ?

1. Extremely satisfied 2. Satisfied 3. Neither satisfied nor unsatisfied

4. Unsatisfied 5. extremely unsatisfied

42. Please list the following information for your current or most recent employer:

Name of firm_____

Address_____

Immediate Supervisor_____

Job Title_____

Salary*_____

*You are not required to report your salary, but if you would it would be strictly confidential and it is the best ways we have of comparing the benefits of having attended College of the Mainland.

_____43. Could you have gotten your present job without your training at College of the Mainland?

1. Yes 2. Possibly 3. No 4. Do not know

_____44. To what extent have you made use of the training you had at College of the Mainland?

1. Considerable use 2. Moderate use 3. Very little use

_____45. Is your job related to your major at College of the Mainland?

1. Directly related 2. Related 3. Somewhat related
4. Unrelated

PART C

Please complete if you have entered other 4-year institutions.

_____46. Date of first enrollment at 4-year institution:

1. Summer, 1972 2. Fall, 1972 3. Spring, 1973
4. Summer, 1973 5. Fall, 1973 6. Spring, 1974
7. Summer, 1974 8. Fall, 1974 9. Other_____

_____47. Present enrollment status:

1. Part-time 2. Full-time 3. Not presently enrolled

48. Name of 4-year institution:

_____

_____49. Please rate the preparation you received for further education from College of the Mainland?

1. Excellent 2. Good 3. Fair 4. Poor 5. Very poor

In items 50 through 71 indicate the degree of difficulty you experienced in College of the Mainland and in the senior college or university in the areas listed below. Use the following code in recording your response

1. No difficulty
2. Little difficulty
3. Moderate difficulty
4. Extreme difficulty

DIFFICULTY IN COLLEGE OF THE MAINLAND

_____50. Meeting scholastic requirements

_____51. Meeting student intellectual competition

_____52. Passing exams and tests

DIFFICULTY IN SENIOR COLLEGE OR UNIVERSITY

_____61. Meeting scholastic requirements

_____62. Meeting student intellectual competition

_____63. Passing exams and tests

DIFFICULTY IN COLLEGE OF THE MAINLAND

_____53. Establishing satisfactory instructor-student relationships

_____54. Establishing satisfactory relations with other students

_____55. Getting involved in campus activities

_____56. Receiving friendliness and individual attention

_____57. Getting good quality instruction

_____58. Obtaining personal counseling

_____59. Obtaining career counseling

_____60. Obtaining academic counseling

DIFFICULTY IN SENIOR COLLEGE OR UNIVERSITY

_____64. Establishing satisfactory instructor-student relationships

_____65. Establishing satisfactory relations with other students

_____66. Getting involved in campus activities

_____67. Receiving friendliness and individual attention

_____68. Getting good quality instruction

_____69. Obtaining personal counseling

_____70. Obtaining career counseling

_____71. Obtaining academic counseling

_____72. What is (was) your overall grade point average at the 4-year institution?

1. Less than 1.0 2. 1.0 to 1.4 3. 1.5 to 1.9 4. 2.0 to 2.4
5. 2.5 to 2.9 6. 3.0 to 3.4 7. 3.5 to 3.9 8. 4.0

office of educational research

college of the mainland

December 11, 1974

A couple of weeks ago College of the Mainland's President, Fred A. Taylor, wrote to you about the Follow-Up Survey of students who were enrolled at College of the Mainland in the Spring Semester of 1972. So far, we haven't received your response to the questionnaire he included in the letter.

Your personal answers to the questionnaire are very important for two reasons:

1. Feedback from former students is the only way a comprehensive community college can know how well it is meeting the needs of the community and what changes are needed to make the college more effective in serving its public.
2. Since it is not possible to survey the opinions of every former student, we must rely on a carefully designed representative sample. Even though your own experience at College of the Mainland is unique in many ways you do represent, in a sense, the other former students who may have shared some of your experiences, but who are not in this scientific sample. (This is also why it is important that your answers reflect your personal opinions and not what you feel other students might think).

If our survey is to provide a true and valid picture, it is extremely important for everyone in the representative sample to return the completed questionnaire. We need your answers to complete the pattern.

Please take a few minutes now to fill out the questionnaire and return it in the enclosed business reply envelope. For your convenience we are enclosing another copy of the questionnaire. Of course, if you have already returned your questionnaire in the past few days, please ignore this request and accept our sincere thanks for your help.

Respectfully,

Larry Wilkinson, Director
Educational Research

8001 palmer highway texas city, texas 77590 (713) 938-1211

office of educational research

college of the mainland

January 15, 1975

Dear Follow-Up Sample Member:

We are sending this by certified mail in case our earlier letters didn't reach you. Please understand we are not trying to harass you with these repeated letters, but our deadline is drawing near and we want everyone to have a chance to participate in the FOLLOW-UP survey.

Please help us determine how well we served you at College of the Mainland, and how we can improve, by completing the enclosed FOLLOW-UP questionnaire and background information sheet, and returning them in the enclosed postage paid envelope.

If you've already returned the questionnaire, please accept our thanks and apologies for this reminder. If you've been intending to do it, but haven't yet for one reason or another, please do it now and return it as soon as possible.

You will be performing a valuable social service in helping to measure the quality of public higher education, and no one else can speak for you. Your answers are completely confidential, of course.

If you have any questions about the survey or the questionnaire, please call me collect at (713) 938-1211 ext. 429, and I will return your call. Feel free to add your comments on the back of the first page, or on separate sheets.

Thanks for your help,

Larry Wilkinson

Larry Wilkinson, Director
Educational Research

LW/jm

8001 palmer highway texas city, texas 77590 (713) 938-1211

APPENDIX B

BACKGROUND INFORMATION SHEET

PLEASE HELP US BRING YOUR RECORDS UP TO DATE BY MAKING ANY NEEDED CORRECTIONS IN THE SPACES BESIDE YOUR NAME AND ADDRESS

NAME: Last First Middle or Maiden

Address

City State Zip

1. Please list the age this year and sex for each member of your family.

A. YOUR FAMILY
(If you are single with no children answer for Self only)

Family Member	Sex	Age
Self	M F	
Spouse	M F	
1st Child	M F	
2nd Child	M F	
3rd Child.	M F	
4th Child	M F	

B. FAMILY YOU GREW UP IN
("Sibling" means either brother or sister)

Family Member	Sex	Age
Father	M F	
Mother	M F	
Oldest Sibling	M F	
Second Sibling	M F	
Third Sibling	M F	
Fourth Sibling	M F	

(Continue on the back if you have more than 4 children or siblings)

FOR THE FOLLOWING QUESTIONS, EACH ITEM IS FOLLOWED BY TWO OR MORE POSSIBLE CHOICES. PLEASE CHOOSE THE ANSWER THAT IS MOST ACCURATE IN DESCRIBING YOU AND WRITE THE NUMBER IN THE BLANK ON THE LEFT. (FOR EXAMPLE, IF YOU ARE "AMERICAN INDIAN" THEN YOU WOULD CHOOSE RESPONSE NUMBER 2 IN THE NEXT QUESTION, AND WRITE 2 IN THE BLANK ON THE LEFT)

_____ 2. Are you: (Choose 1 only)

1. Afro-American
2. American Indian
3. Black
4. Caucasian
5. Chicano
6. Mexican American
7. Negro
8. Oriental
9. White
10. Other (Please list) _____

PLEASE ESTIMATE THE PORTION OF YOUR COLLEGE EXPENSES FROM EACH SOURCE, USING THE FIVE CHOICES ON THE RIGHT:

_____ 3. Parents or guardians
_____ 4. Spouse
_____ 5. Loans
_____ 6. Scholarships and grants
_____ 7. Personal earnings

1. All or nearly all
2. About 75%
3. About one-half
4. About 25%
5. None or almost none

WHAT IS THE APPROXIMATE FAMILY INCOME PER YEAR FOR 1974 OF:

_____ 8. Your family now (or yourself)?
_____ 9. The family you grew up in?

1. Less than $1,000
2. $1,000 - 1,999
3. $2,000 - 2,999
4. $3,000 - 3,999
5. $4,000 - 4,999
6. $5,000 - 5,999
7. $6,000 - 6,999
8. $7,000 - 7,999
9. $8,000 - 8,999
10. $9,000 - 9,999
11. $10,000 - 11,999
12. $12,000 - 14,999
13. $15,000 - 24,999
14. $25,000 - 49,999
15. $50,000 or more
16. Do not know
17. Consider this Confidential

FOLLOW-UP QUESTIONNAIRE

PART A
TO BE COMPLETED BY EVERYONE

_____ 1. Which of the following best describes your feeling about your educational experience at College of the Mainland?

1. Very satisfied 2. Satisfied 3. Neutral
4. Disappointed 5. Very disappointed

_____ 2. What was (is) your approximate grade average at COM?

1. Less than C 2. C 3. B 4. A

_____ 3. What did you hope to accomplish at College of the Mainland?

1. Complete a transfer degree (AA or AAS)
2. Complete a two year credit, non-transfer diploma
3. Complete a one year credit certificate
4. Complete credit courses only
5. Complete non-credit certificate
6. Complete non-credit courses only
7. Gain saleable skills, whether completing courses or not.
8. Satisfy intellectual curiosity, whether completing courses or no

_____ 4. Have you accomplished this objective?

1. Yes
2. No, but still pursuing the objective
3. No, but still hope to in the future
4. No, but changed my objective to one I feel is more appropriate
5. No, and have no plans to pursue any level of education further

_____ 5. While attending College of the Mainland, I was primarily a:

1. Full-time student, not employed
2. Full-time student, full-time employment
3. Full-time student, part-time employment
4. Part-time student, full time employment
5. Part-time student, part-time employment
6. Part-time student, concurrently enrolled in high school or another college

_____ 6. Which of the following programs did you major in (or concentrate in if no major) at College of the Mainland?

1. Natural Sciences-Math
2. Social Sciences
3. Humanities (incl. Fine Arts)
4. Business
5. Nursing
6. Law Enforcement
7. Physical Education
8. Air-Conditioning
9. Automotive
10. Drafting
11. Electronics
12. Graphic Arts
13. Welding

_____ 7. What was your principal reason for not returning to College of the Mainland?

1. Does not apply; I am still a student at COM
2. Completed the program or courses for which I was enrolled
3. Disappointed in the program for which I was enrolled
4. Found the work more difficult than I had anticipated
5. Felt the instruction was inadequate
6. Unable to finance further education
7. Active military service
8. Transportation problems
9. Child care problems
10. Other (Please List)_____

PLEASE RATE THE OVERALL QUALITY OF EACH OF THE FOLLOWING AT COLLEGE OF THE MAINLAND, USING THESE FIVE POSSIBLE RATINGS:

1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

_____ 8. Teaching staff
_____ 9. Academic standards
_____ 10. Administration
_____ 11. Registration and fee payment
_____ 12. Counseling services
_____ 13. Course documents system
_____ 14. Variety of courses offered
_____ 15. Library collections and services
_____ 16. Audio-visual collections and services
_____ 17. Advisor system
_____ 18. Parking facilities
_____ 19. Systematic approach to teaching

INDICATE IF THE ITEM DESCRIBES YOUR PRESENT ACTIVITIES

1 = Yes 2 = No

_____ 20. Employed full-time
_____ 21. Employed part-time
_____ 22. Student at College of the Mainland
_____ 23. Student at another 2 year College
_____ 24. Undergraduate student at senior college
_____ 25. Graduate student
_____ 26. Military service
_____ 27. Unemployed, seeking employment
_____ 28. Unemployed, not seeking employment

PART B

PLEASE COMPLETE IF YOU ARE EMPLOYED, OR IF YOU HAVE BEEN EMPLOYED SINCE LEAVING COLLEGE OF THE MAINLAND

DID COURSES AT COLLEGE OF THE MAINLAND HELP YOU IN ANY OF THE FOLLOWING WAYS?

1 = Yes 2 = No

_____ 29. Helped me obtain a job
_____ 30. Helped me perform job
_____ 31. Helped me advance on job
_____ 32. Prepared me for job available in my community

TO HELP US DETERMINE WHICH EMPLOYERS ARE USING PEOPLE EDUCATED AT COLLEGE OF THE MAINLAND, WOULD YOU PLEASE LIST THE FOLLOWING INFORMATION REGARDING YOUR PRESENT OR MOST RECENT FIRM OR EMPLOYER?

Name of Firm_____

Address_____

Your job title_____

Name of your immediate supervisor_____

Your salary*_____ *You are not required to report your salary, of course, but if you would, it would be strictly confidential and it is one of the best ways we have of comparing the benefits of having attended College of the Mainland.

_____ 33. How satisfied are you with your work position?

1. Extremely satisfied 2. Satisfied 3. Neither satisfied nor
4. Unsatisfied 5. Extremely unsatisfied unsatisfied

_____ 34. Could you have gotten your present job without your education at College of the Mainland?

1. Yes 2. Possible 3. No 4. Do not know

_____ 35. To what extent have you made use on the job of the education you had at College of the Mainland?

1. Considerable use 2. Moderate use 3. Very little use

_____ 36. Is your job related to your stated major at College of the Mainland

1. Directly related 2. Related 3. Somewhat related
4. Unrelated

PART C

TO BE COMPLETED IF YOU HAVE ENTERED ANY UPPER LEVEL OR SENIOR COLLEGE SINCE LEAVING COLLEGE OF THE MAINLAND

_____ 37. Date of first enrollment at 4-year institution:

1. Summer, 1972 2. Fall, 1972 3. Spring, 1973
4. Summer, 1973 5. Fall, 1973 6. Spring, 1974
7. Summer, 1974 8. Fall, 1974 9. Other_____

_____ 38. Present enrollment status:

1. Part-time 2. Full-time 3. Not presently enrolled

_____ 39. Name of 4-year institution (s):_____

_____

_____

_____ 40. What is (was) your current or last major_____

_____ 41. Please rate the preparation you received for further education from College of the Mainland?

1. Excellent 2. Good 3. Fair 4. Poor 5. Very poor

_____ 42. What is (was) your overall grade point average in upper level or senior college(s)?

1. Less than 1.0 2. 1.0 to 1.4 3. 1.5 to 1.9 4. 2.0 to 2.4
5. 2.5 to 2.9 6. 3.0 to 3.4 7. 3.5 to 3.9 8. 4.0

IN ITEMS 43 THROUGH 66 INDICATE THE DEGREE OF DIFFICULTY YOU EXPERIENCED IN COLLEGE OF THE MAINLAND ON THE LEFT AND IN THE SENIOR COLLEGE OR UNIVERSITY ON THE RIGHT IN THE AREAS LISTED BELOW. USE THE FOLLOWING CODE IN RECORDING YOUR RESPONSE

1. No difficulty
2. Little difficulty
3. Moderate difficulty
4. Extreme difficulty

DIFFICULTY IN COLLEGE OF THE MAINLAND	DIFFICULTY IN SENIOR COLLEGE OR UNIVERSITY
_____ 43. Meeting scholastic requirements	_____ 55. Meeting scholastic requirements
_____ 44. Meeting student intellectual competition	_____ 56. Meeting student intellectual competitio
_____ 45. Passing exams and tests	_____ 57. Passing exams and tests
_____ 46. Establishing satisfactory relationships with other students	_____ 58. Establishing satisfacto relationships with othe students
_____ 47. Establishing satisfactory instructor-student relationships	_____ 59. Establishing satisfacto instructor-student relationships
_____ 48. Getting involved in campus activities	_____ 60. Getting involved in campus activities
_____ 49. Receiving friendliness and individual attention from faculty	_____ 61. Receiving friendliness and individual attention from faculty
_____ 50. Getting good quality instruction	_____ 62. Getting good quality instruction
_____ 51. Obtaining personal counseling	_____ 63. Obtaining personal counseling
_____ 52. Obtaining career counseling	_____ 64. Obtaining career counseling
_____ 53. Obtaining academic counseling	_____ 65. Obtaining academic counseling
_____ 54. Transportation to campus	_____ 66. Transportation to campus

APPENDIX C

RESEARCH TRIANGLE INSTITUTE
P. O. Box 12194
Research Triangle Park
North Carolina 27709

FINAL REPORT
For
COLLEGE OF THE MAINLAND
ALUMNI FOLLOW-UP SURVEY

Prepared By
Maizie H. Van Sciver
May 8, 1975

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I. INTRODUCTION

The purpose of this report is to summarize the field data collection activities performed and final results obtained by the Research Triangle Institute (RTI) for College of the Mainland (COM) Alumni Follow-Up Survey. The survey was conducted under an Agreement for Support of Research which provided for the professional services of RTI's Field Supervisor permanently located in Humble, Texas, for the purpose of planning and implementing follow-up survey interviewing activities during the period from April 11 through May 5, 1975, in support of an alumni survey being conducted by COM.

The services provided and the project dates are outlined below:

April 11 - 14	Interviewing applicants and retaining two field interviewers
April 11 - 17	Preparing Interviewer Training Manual and administrative forms
April 18	Interviewer training session
April 19 - May 5	Field data collection
May 2 - 5	Preparation of Final Report to COM

In an effort to secure 50 completed questionnaires, COM provided an initial list of 50 COM alumni who had not responded to an earlier mail questionnaire, with an additional list sample of 20 non-respondents for substitution when an original sample member could not be interviewed. Interviews were conducted by telephone with two exceptions which required personal interviews.

II. PLANNING AND INSTRUMENT DEVELOPMENT

A. The Questionnaire

The questionnaire for this survey was provided by COM; however, the RTI Field Supervisor revised the questionnaire format to make it more adapted to telephone interviewing. A copy of the revised questionnaire appears in Appendix A of this report.

B. Development of Field Interviewer Training Manual and Administrative Forms

The Interviewer Training Manual and administrative forms for the survey were developed by the RTI Field Supervisor from April 11 through April 16, 1975.

The manual was designed to provide the interviewers with background information about RTI and the study, knowledge of effective field interviewing techniques and procedures, details of their assignment and specific responsibilities, and instructions for administrative procedures. A copy of the manual, which contains a copy of all administrative forms, appears in Appendix B of this report.

III. HIRING AND TRAINING FIELD INTERVIEWERS

A. Hiring

A total of twelve applicants were interviewed for the field interviewer position by RTI's Field Supervisor on April 11 and 14, 1975. Names and information for ten of these applicants were provided by COM, while two were taken from RTI's National Interviewer File. Two of these applicants were hired on April 14, 1975.

B. Training

A one-day training session for the field interviewers was held on April 18, 1975, and was conducted by the RTI Field Supervisor with the assistance of the COM Director of Educational Research. At the session, the training manual was thoroughly reviewed and discussed, and both interviewers completed two practice interviews. Initial assignments (a total of 50 cases) were made at the close of the session. The field interviewers were assigned those cases with addresses in Texas City, La Marque, and Galveston, and the Field Supervisor was assigned all cases which were in the Houston area or which required long distance telephone contact.

IV. FIELD DATA COLLECTION AND SUPERVISION

A. Field Visitation and Quality Control

Field interviewing began on April 19, 1975, and was completed by May 5, 1975. During the course of the data collection period, RTI's Field Supervisor made six field visits to COM to meet with the field interviewers to collect and review their completed work and monitor their progress. During these meetings, the completed questionnaires were carefully reviewed by the Field Supervisor, and questions and concerns of the interviewers were discussed.

In cases where the interviewers were unable to locate the sample member from information found on the questionnaire, data card, COM staff were requested to review the individual's registration records for more information. This additional information led to a successful contact with approximately 50% of the 22 cases referred in this manner.

On April 25th, COM staff decided to assign the 20 substitute cases, which made a total of 70 cases assigned during the data collection period.

B. Validation

The RTI Field Supervisor verified by telephone 20 percent of each interviewer's completed work. The validation points of inquiry included the date and length of the interview, the manner in which it was conducted, and any relevant comments or questions about the study from the sample member. The validation results indicated that both interviewers had properly carried out their responsibilities.

V. EDITING

The field interviewers were responsible for editing the questionnaires immediately after completing an interview. The Field Supervisor edit of completed work was performed during field visits, and sample members were recalled in several cases where information had been omitted.

VI. FINAL RESULTS

The field data collection activities resulted in 56 completed interviews, 39 of which were original list sample members and the remaining 17 were from the substitute list sample. Two sample members refused to be interviewed, and another one was counted as a refusal because she continually told the interviewer she was too busy for the interview when contacted on several occasions. This resulted in a total of three refusals. The interviewers were unable to contact the remaining 11 sample members because they had moved from the address listed on the data card, and no further information was found in the COM files.

The above results are summarized in the following table:

	Cases Assigned		Cases Completed			Refusals		Unable to Locate	
	#	%	#	% of total assigned	completed	#	%	#	%
Original Sample	50	71.4	39	55.7	69.6	1	1.4	10	14.3
Substitute Sample	20	28.6	17	24.3	30.4	2	2.9	1	1.4
Total	70	100.0	56	80.0	100.0	3	4.3	11	15.7

RESEARCH TRIANGLE INSTITUTE
P. O. BOX 12194
RESEARCH TRIANGLE PARK, N. C. 27709

COLLEGE OF THE MAINLAND
ALUMNI FOLLOW-UP QUESTIONNAIRE

I.D. Number_____
NAME:_____

I. Interveiwer Assignment
Assigned to:_____ Date:_____
Reassigned to:_____ Date:_____

II. Final Address of Sample Member Who Has Moved

_____

_____

_____

Phone:_____

III. Interview Date and Time
Date Interview Completed:_____
Interview Time (Phone)_____
Interview Time (Personal):_____

IV. Interviewed By:_____
Date to FS:_____

V. Final Result:/Approved by FS

1. Interview Completed - Phone..... ☐
2. Interview Completed - In Person... ☐
3. Refused..... ☐
4. Unable to Contact..... ☐
5. Other (Specify)_____

_____

_____

_____

VI. RECORD OF INTERVIEWER ACTION ON CASE

DATE	TIME	ACTION TAKEN	RESULT

PART A: COM EDUCATION EVALUATION

These first questions are concerned with your experiences at the College.

_____ 1. Which of the following best describes your feeling about your educational experience at College of the Mainland? Were you:

1. Very satisfied 2. Satisfied 3. Neutral
4. Disappointed 5. Very disappointed

_____ 2. What was (is) your approximate grade average at COM?

1. Less than C 2. C 3. B 4. A

_____ 3. What did you hope to accomplish at College of the Mainland? (Record respondent's answer in 9 "Other". During edit, try to place answer in one of the listed categories if possible.)

1. Complete a transfer degree (AA or AAS).
2. Complete a two year credit, non-transfer diploma.
3. Complete a one year credit certificate.
4. Complete credit courses only.
5. Complete non-credit certificate.
6. Complete non-credit courses only.
7. Gain saleable skills, whether completing courses or not.
8. Satisfy intellectual curiosity, whether completing courses or not.
9. Other: _____

_____

_____

_____ 4. Have you accomplished this objective? (Record respondent's answer in 6 "Other". During edit, try to place answer in one of the listed categories if possible.)

1. Yes
2. No, but still pursuing the objective
3. No, but still hope to in the future
4. No, but changed my objective to one I feel is more appropriate.
5. No, and have no plans to pursue any level of education further
6. Other: _____

_____

_____ 5. While attending College of the Mainland, were you a part-time or full-time student? Were you employed part-time or full-time?

1. Full-time student, not employed
2. Full-time student, full-time employment
3. Full-time student, part-time employment
4. Part-time student, full-time employment
5. Part-time student, part-time employment
6. Part-time student, concurrently enrolled in high school or another college.
7. Part-time student, not employed

_____ 6. What was your major or program of concentration at College of the Mainland?

1. Natural Sciences-Math
2. Social Sciences
3. Humanities (incl. Fine Arts)
4. Business
5. Nursing
6. Law Enforcement
7. Physical Education
8. Air-Conditioning
9. Automotive
10. Drafting
11. Electronics
12. Graphic Arts
13. Welding

_____ 7. What was your principal reason for not returning to College of the Mainland? (Record respondent's answer in 10 "Other." During edit, try to place answer in one of the listed categories if possible.)

1. Does not apply; I am still a student at COM
2. Completed the program or courses for which I was enrolled
3. Disappointed in the program for which I was enrolled
4. Found the work more difficult than I had anticipated
5. Felt the instruction was inadequate
6. Unable to finance further education
7. Active military service
8. Transportation problems
9. Child care problems
10. Other: _____

_____

_____

HOW WOULD YOU RATE THE OVERALL QUALITY OF EACH OF THE FOLLOWING ASPECTS OF COLLEGE OF THE MAINLAND? PLEASE RATE THEM:

1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

_____ 8. Teaching staff
_____ 9. Academic standards
_____10. Administration
_____11. Registration and fee payment
_____12. Counseling services
_____13. Course documents system
_____14. Variety of courses offered
_____15. Library collections and services
_____16. Audio-visual collections and services
_____17. Advisor system
_____18. Parking facilities
_____19. S stematic approach to teaching

ARE YOU PRESENTLY: 1=Yes 2=No

_____20. Employed full-time
_____21. Employed part-time
_____22. Student at College of the Mainland
_____23. Student at another 2 year college
_____24. Undergraduate student at senior college
_____25. Graduate student
_____26. Military service
_____27. Unemployed, seeking employment
_____28. Unemployed, not seeking employment

PART B: WORK EXPERIENCE

SCREENING QUESTION: HAVE YOU BEEN EMPLOYED SINCE LEAVING COLLEGE OF THE MAINLAND?

Yes . . 1 (Continue on to next question)
No . . 2 (Skip to Part C)

DID COURSES AT THE COLLEGE OF THE MAINLAND HELP YOU: (1 = Yes; 2 = No)

_____29. obtain a job
_____30. perform on the job
_____31. advance on the job
_____32. prepare you for job available in your community

THE NEXT INFORMATION WILL HELP US DETERMINE WHICH EMPLOYERS ARE USING PEOPLE EDUCATED AT COLLEGE OF THE MAINLAND. WHO IS (WAS) YOUR PRESENT OR MOST RECENT FIRM OR EMPLOYER?

Name of Firm _____

Address _____

Your job title _____ Immediate supervisor _____

Your salary _____ (Note: You are not required to report your salary, of course, but if you would, it would be strictly confidential and it is one of the best ways we have of comparing the benefits of having attended College of the Mainland.)

_____ 33. How satisfied are you with your work position?

1. Extremely satisfied 2. Satisfied 3. Neither satisfied nor unsatisfied
4. Unsatisfied 5. Extremely unsatisfied

_____ 34. Could you have gotten your present job without your education at College of the Mainland?

1. Yes 2. Possible 3. No 4. Do not know

_____ 35. To what extent have you made use on the job of the education you had at College of the Mainland?

1. Considerable use 2. Moderate use 3. Very little use

_____ 36. Is your job related to your stated major at College of the Mainland?

1. Directly related 2. Related 3. Somewhat related 4. Unrelated

PART C: FURTHER EDUCATION

SCREENING QUESTION: HAVE YOU ENTERED ANY UPPER LEVEL OR SENIOR COLLEGE SINCE LEAVING COLLEGE OF THE MAINLAND?

Yes.....1 (continue to Q.37)
No.....2 (Skip to Part D)

_____ 37. What was the date of first enrollment at the 4-year institution?

1. Summer, 1972 2. Fall, 1972 3. Spring, 1973
4. Summer, 1973 5. Fall, 1973 6. Spring, 1974
7. Summer, 1974 8. Fall, 1974 9. Other _____

_____ 38. Are you presently enrolled:

1. Yes, part-time 2. Yes, full-time 3. Not presently enrolled

_____ 39. What is the name of the 4-year institution (s): _____

_____

_____

_____ 40. What is (was) your current or last major _____

_____ 41. How would you rate the preparation you received for further education from College of the Mainland? Please rate it:

1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

_____ 42. What is (was) your overall grade point average in upper level or senior college(s)?

1. Less than 1.0 2. 1.0 to 1.4 3. 1.5 to 1.9 4. 2.0 to 2.4
5. 2.5 to 2.9 6. 3.0 to 3.4 7. 3.5 to 3.9 8. 4.0

THE NEXT QUESTIONS ASK ABOUT THE DEGREE OF DIFFICULTY YOU EXPERIENCED IN COLLEGE OF THE MAINLAND AND IN THE SENIOR COLLEGE OR UNIVERSITY. FOR EACH AREA I NAME, PLEASE TELL ME IF YOU EXPERIENCED:

1. No difficulty
2. Little difficulty
3. Moderate difficulty
4. Extreme difficulty

DIFFICULTY IN COLLEGE OF THE MAINLAND	DIFFICULTY IN SENIOR COLLEGE OR UNIVERSITY
_____ 43. Meeting scholastic requirements	_____ 55. Meeting scholastic requirements
_____ 44. Meeting student intellectual competition	_____ 56. Meeting student intellectual competition
_____ 45. Passing exams and tests	_____ 57. Passing exams and tests
_____ 46. Establishing satisfactory relationships with other students	_____ 58. Establishing satisfactory relationships with other students
_____ 47. Establishing satisfactory instructor-student relationships	_____ 59. Establishing satisfactory instructor-student relationships
_____ 48. Geeting involved in campus activities	_____ 60. Getting involved in campus activities
_____ 49. Receiving friendliness and individual attention from faculty	_____ 61. Receiving friendliness and individual attention from faculty
_____ 50. Getting good quality instruction	_____ 62. Getting good quality instruction
_____ 51. Obtaining personal counseling	_____ 63. Obtaining personal counseling
_____ 52: Obtaining career counseling	_____ 64. Obtaining career counseling
_____ 53. Obtaining academic counseling	_____ 65. Obtaining academic counseling
_____ 54. Trarsportation to campus	_____ 66. Transportation to campus

-5-

BACKGROUND INFORMATION SHEET

THE LAST FEW QUESTIONS ASK SOME BACKGROUND INFORMATION WHICH WILL HELP US UPDATE OUR RECORDS.

ADDRESS: _____

PHONE: _____

1. What is the age this year and sex for each member of your family.

A. YOUR FAMILY
(If you are single with no children answer for Self only)

Family Member	Sex	Age
Self	M F	
Spouse	M F	
1st Child	M F	
2nd Child	M F	
3rd Child	M F	
4th Child	M F	

B. FAMILY YOU GREW UP IN
("Sibling" means either brother or sister)

Family Member	Sex	Age
Father	M F	
Mother	M F	
Oldest Sibling	M F	
Second Sibling	M F	
Third Sibling	M F	
Fourth Sibling	M F	

(Continue on the back if respondent has more than 4 children or siblings)

_____ 2. Are you: (Choose 1 only)

1. Afro-American
2. American Indian
3. Black
4. Caucasian
5. Chicano
6. Mexican American
7. Negro
8. Oriental
9. White
10. Other (Please list)_____

APPROXIMATELY WHAT PORTION OF YOUR COLLEGE EXPENSES WERE PROVIDED BY: (Read each answer choice)

_____ 3. Parents or guardians
_____ 4. Spouse
_____ 5. Loans
_____ 6. Scholarships and grants
_____ 7. Personal earnings

1. All or nearly all
2. About 75%
3. About one-half
4. About 25%
5. None or almost none

WHAT IS THE APPROXIMATE FAMILY INCOME PER YEAR FOR 1974 OF:

_____ 8. Your family now (or yourself?)
_____ 9. The family you grew up in?

1. Less than $1,000
2. $1,000 - 1,999
3. $2,000 - 2,999
4. $3,000 - 3,999
5. $4,000 - 4,999
6. $5,000 - 5,999
7. $6,000 - 6,999
8. $7,000 - 7,999
9. $8,000 - 8,999
10. $9,000 - 9,999
11. $10,000 - 11,999
12. $12,000 - 14,999
13. $15,000 - 24,999
14. $25,000 - 49,999
15. $50,000 or more
16. Do not know
17. Consider this confidential

APPENDIX D

BACKGROUND INFORMATION SHEET

PLEASE HELP US BRING YOUR RECORDS UP TO DATE BY MAKING ANY NEEDED CORRECTIONS IN THE SPACES BESIDE YOUR NAME AND ADDRESS

NAME: Last First Middle or Maiden

ADDRESS:

CITY STATE ZIP

SOCIAL SECURITY NUMBER

Address where you can be located in three years? (Parents, work)

In care of:

TO HELP US DETERMINE WHICH EMPLOYERS ARE USING PEOPLE EDUCATED AT COLLEGE OF THE MAINLAND, WOULD YOU PLEASE LIST THE FOLLOWING INFORMATION REGARDING YOUR PRESENT OR MOST RECENT FIRM OR EMPLOYER?

Name of Firm

Address

Your Job Title

Name of your immediate supervisor

What is your current Marital Status? (Circle one.)

Single----------01
Single and living with someone of the opposite sex----------02
Married----------03
Separated----------04
Divorced----------05
Widowed----------06

Who lives in your household? (Circle as many as apply)

I live alone----------01
Spouse----------02
My children----------03
My parents----------04
My brothers and sisters----------05
Other relatives----------06
Other persons not related----------07

What is your age?_____ What is your sex? Male_____ Female_____

Please list the age this year and sex for each member of your family.

A. YOUR FAMILY
(If you are single with no children answer for Self only)

Family Member	Sex	Age
Spouse	M F	
1st Child	M F	
2nd Child	M F	
3rd Child	M F	
4th Child	M F	

B. FAMILY YOU GREW UP IN
("Sibling" means either brother or sister)

Family Member	Sex	Age
Father	M F	
Mother	M F	
Oldest Sibling	M F	
Second Sibling	M F	
Third Sibling	M F	
Fourth Sibling	M F	

(Continue on the back if you have more than 4 children or siblings)

Total number of children?_____ Total number of siblings_____

What is your race? (Circle one)

1. Afro-American
2. American Indian
3. Black
4. Caucasian
5. Chicano
6. Mexican American
7. Negro
8. Oriental
9. White
10. Other (Please list) _____

How long have you lived in the Houston-Galveston area?_____

What is (was) your mother's occupation?_____
Describe briefly_____

What is(was) your father's occupation?_____
Describe briefly_____

What is your occupation?_____
Describe briefly_____

FOR THE FOLLOWING QUESTION - CHOOSE THE MOST ACCURATE ANSWER FOR EACH PERSON LISTED - ENTER TWO-DIGET CODE WHICH FOLLOWS THE DOLLAR AMOUNT IN THE SPACE PROVIDED

___What is the approximate annual income before taxes for your FATHER for 1975?

_____For your MOTHER

_____For your present family (yourself or yourself plus your spouse)?

Less than $1,000---01	$8,000 - 8,999----09	$21,000 - 23,999---16
$1,000 - 1,999-----02	$9,000 - 9,999----10	$24,000 - 26,999---17
$2,000 - 2,999-----03	$10,000 - 10,999---11	$27,000 - 29,000---18
$3,000 - 3,999-----04	$11,000 - 11,999---12	$30,000 - 49,999---19
$4,000 - 4,999-----05	$12,000 - 14,999---13	$50,000 or more----20
$5,000 - 5,999-----06	$15,000 - 17,999---14	Do Not Know--------21
$6,000 - 6,999-----07	$18,000 - 20,999---15	

What is your salary (do not include other sources of income)_____per month?

What is the highest level of education your father completed? (Circle one.)

None----------01
Some grade school----------02
Finished grade school----------03
Some high school----------04
Graduated from high school----------05
General Educational Development (G.E.D.)----------06
Quit high school before graduation and went to trade, technical or business school----------07
Graduated from high school and went to trade, technical or business school----------08
Some college (including junior college)----------09
Graduated from college----------10
Some graduate or professional school----------11
Received a graduate or professional degree----------12
Don't know----------13

What is the highest level of education your mother completed? (Circle one)

None----------01
Some grade school----------02
Finished grade school----------03
Some high school----------04
Graduated from high school----------05
General Educational Development (G.E.D.)----------06
Quit high school before graduation and went to trade, technical or business school----------07
Graduated from high school and went to trade, technical or business school----------08
Some college (including junior college)----------09
Graduated from college----------10
Some graduate or professional school----------11
Received a graduate or professional degree----------12
Don't know----------13

What is the name and location of the high school from which you graduated?

_____

_____

What year did you graduate from high school?_____

What was the size of your graduating class? (Circle one)

Less than 100---01	700 - 899---05
100 - 299-------02	900 - 1099--06
300 - 499-------03	1100 or more-07
500 - 699-------04	Don't know--08

Type of high school program from which you graduated (Circle one)

College Prep--------01
General------------02
Vocational----------03
G. E. D.------------04
Did not graduate----05
Not applicable------06

What was your overall high school grade average? (Circle one)

Less than 70---01
70 - 79--------02
80 - 89--------03
90 - 100-------04

What was your rank in your high school graduating class? (Circle one)

Top 10 percent------01
Top 25 percent------02
Top 50 percent------03
Top 75 percent------04
Lower 25 percent----05

What was the first year that you enrolled in College of the Mainland?_____

What school(s) have you attended beyond high school?_____

_____

_____

What is your military status? (Circle one)

Veteran receiving G.I. benefits----------01
Veteran not receiving G.I. benefits----------02
Active duty----------03
Not applicable----------04

Why did you decide to attend a two year college? (Circle as many as apply)

It offered specific programs I needed----------01
It offered specific courses I needed----------02
Lower tuition----------03
Parent's advice----------04
Counselor's advice----------05
Friend's recommendation----------06
Allow me to earn a G. E. D.----------07
Not eligible for a four year college----------08
Offered a more personal environment----------09
Small class sizes----------10
Small college----------11
Preparation for a four year college----------12
Easier to get into----------13
Other (Please specify)_____----------14

Why did you choose College of the Mainland? (Circle as many as apply)

Offered courses I needed-----01
Offered programs I needed----02
Geographic location----------03
Cost----------04
Convenience----------05
Parental advice----------06
Friend's recommendation------07
Counselor's advice----------08
College's reputation----------09
Quality of instructors----------10
Use of the course document system---11
More flexible schedule----------12
Employment available on campus------13
Easy----------14
Know someone who has attended-------15
College Recruitment----------16

PLEASE CIRCLE THE NUMBER ON EACH SCALE WHICH BEST INDICATES YOUR FEELINGS ABOUT THE TYPE OF SCHOOLS LISTED BELOW. (FOR EXAMPLE, IF ON THE FIRST SCALE YOU CIRCLE 01 THAT WOULD INDICATE THAT YOU CONSIDERED A FOUR YEAR COLLEGE VERY COMFORTABLE, 03 WOULD INDICATE A NEUTRAL FEELING, 07 WOULD INDICATE YOU CONSIDERED IT TO BE UNCOMFORTABLE.

Before enrolling at College of the Mainland, what did you think a four year college would be like?

FOUR YEAR COLLEGE

Comfortable	01	02	03	04	05	06	07	Uncomfortable
Threatening	01	02	03	04	05	06	07	Non-Threatening
Inexpensive	01	02	03	04	05	06	07	Expensive
Difficult	01	02	03	04	05	06	07	Easy
Discriminatory	01	02	03	04	05	06	07	Non-discriminatory
Liberal	01	02	03	04	05	06	07	Conservative
Personal	01	02	03	04	05	06	07	Impersonal

Before enrolling at College of the Mainland, what did you think a two year college would be like?

TWO YEAR COLLEGE

Comfortable	01	02	03	04	05	06	07	Uncomfortable
Threatening	01	02	03	04	05	06	07	Non-Threatening
Inexpensive	01	02	03	04	05	06	07	Expensive
Difficult	01	02	03	04	05	06	07	Easy
Discriminatory	01	02	03	04	05	06	07	Non-discriminatory
Liberal	01	02	03	04	05	06	07	Conservative
Personal	01	02	03	04	05	06	07	Impersonal

How do you now feel about College of the Mainland?

COLLEGE OF THE MAINLAND

Comfortable	01	02	03	04	05	06	07	Uncomfortable
Threatening	01	02	03	04	05	06	07	Non-Threatening
Inexpensive	01	02	03	04	05	06	07	Expensive
Difficult	01	02	03	04	05	06	07	Easy
Discriminatory	01	02	03	04	05	06	07	Non-discriminatory
Liberal	01	02	03	04	05	06	07	Conservative
Personal	01	02	03	04	05	06	07	Impersonal

Did you seek a degree at College of the Mainland? Yes 01 No 02

If yes, what degree?_____

What other goals were you seeking to accomplish by coming to college? (Please rank the three most important goals. 1 = most important; 2 = important; 3 = least important:

_____Improvement of existing job skills
_____Preparation for job
_____University transfer credit
_____Personal enrichment
_____Social interaction (meet new friends, join clubs, attend cultural events, etc.)
_____To earn respect from family and friends
_____Get a better job
_____Make something of myself
_____Improve myself
_____Pressure from parents
_____Intellectual curosity
_____Broader knowledge
_____Determine life goals
_____Always expected to go to college
_____G. I. Benefits
_____Gets me out of home
_____Get a one year credit certificate
_____Couldn't find a job
_____Avoid the draft
_____Other (Please specify)_____

Did you accomplish your goal (including a degree)? Yes 01 No 02

If yes, did you ever consider stopping your education before accomplishing your goal?

Yes 01 No 02

If yes, what influenced your decision to stay? (Circle only most important choice).

Guidance and counseling from College of the Mainland----------01
Changed my program of study----------02
Talked over my problems with the faculty----------03
Tried remedial program----------04
Sought financial aid----------05
Talked with veteran representative----------06
Encouragement from others (friends, family, employers)----------07
Personal determination----------08
Other (please specify)----------09

IF YOU COMPLETED YOUR GOAL, PLEASE SKIP TO QUESTION _____. IF YOU DID NOT COMPLETE YOUR GOAL, PLEASE ANSWER THE FOLLOWING_____QUESTIONS BEFORE MOVING TO QUESTION_____.

If not, why? (Please rank 1, 2, and 3 as in question_____.)

_____I am still pursuing the goal
_____Changed my goal
_____Decided I could satisfy my goals without the degree
_____Transferred to another college
_____Disappointed in program
_____Bored
_____Found work more difficult than I had anticipated
_____Poor grades
_____Program irrelevent
_____Not enough time to study
_____Unable to finance further education
_____Active military service
_____Took a job (including changing jobs)
_____Schedule changed
_____Moved
_____Transportation problems
_____Child care problems
_____I got married
_____Health problems
_____Felt uneasy at the College
_____Spouse unhappy about my attending
_____I got a divorce
_____Other (Please specify)_____

Did you seek any assistance from COM which might have allowed you to stay?
Yes 01 No 02

If yes, what type of assistance? (Circle most important)

Guidance and counseling----------01
Changed program of study----------02
Talked over problems with faculty----03
Tried remedial program----------04
Sought financial aid----------05
Talked with veteran representative--06

Which of the following best represents your feelings about not accomplishing your goal? (Circle one)

Very comfortable----------01
Comfortable----------02
Neutral----------03
Uncomfortable----------04
Very uncomfortable----------05

Where the reasons you did not complete your goal: (Circle one)

Personal reasons----------01
Things about College of the Mainland-02

Which of the following best describes your feelings about your educational experiences at College of the Mainland?

Very satisfied----------01
Satisfied----------02
Neutral----------03
Dissatisfied----------04
Very dissatisfied----------05

What was your approximate grade average at College of the Mainland?

Less than a C C B A

While attending College of the Mainland, I was primarily a:

Full-time student, not employed
Full-time student, full-time employment
Full-time student, part-time employment
Part-time student, full time employment
Part-time student, part time employment
Part-time student, concurrently enrolled in high school or another college
Part-time student, not employed

Which of the following programs did you major in (or concentrate in if no major) at College of the Mainland?

Natural Sciences - Math
Social Sciences
Humanities (including Fine Arts)
Business
Nursing
Law Enforcement
Physical Education

Air Conditioning
Automotive
Drafting
Electronics
Graphic Arts
Welding

What is the highest academic degree that your parents expect you to obtain? (Circle one)

None----------01
AA----------02
BA, BS----------03
MA, MS----------04
Ph.D., Ed.D----------05
Medical Degree----------06
Law Degree----------07
Other(Please specify)_____--------08

What is the highest academic degree that you expect to obtain? (Circle one)

None----------01
AA----------02
BA,BS----------03
MA,MS----------04
Ph.D., Ed.D.----------05
Medical Degree----------06
Law Degree----------07
Other (Please specify)_____--------08

What could COM do to get you to stay or return (Circle the most important one)

More flexible schedules----------01
More variety of classes offered----------02
Make classes more relevant----------03
Make classes less boring----------04
Offer more financial aid----------05
Reduce amount of work required for classes----------06
Offer more student services (Counseling, job placement, child care, transportation----------07
Other (Please specify)_____--------08

PLEASE ESTIMATE THE PORTION OF YOUR COLLEGE EXPENSES FROM EACH SOURCE, USING THE FIVE CHOICES ON THE RIGHT:

_____ Parents or guardians	1. All or nearly all
_____ Spouse	2. About 75%
_____ Loans	3. About one-half
_____ Scholarships and grants	4. About 25%
_____ Personal earnings	5. None or almost none

PLEASE RATE THE OVERALL QUALITY OF EACH OF THE FOLLOWING AT COLLEGE OF THE MAINLAND, USING THESE FIVE POSSIBLE RATINGS:

1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

_____ Teaching staff	_____ Library collections and services
_____ Academic standards	_____ Audio-visual collections and services
_____ Administration	_____ Advisor system
_____ Registration and fee payment	_____ Parking facilities
_____ Counseling services	_____ Systematic approach to teaching
_____ Course documents system	
_____ Variety of courses offered	

INDICATE IF THE ITEM DESCRIBES YOUR PRESENT ACTIVITIES

1 = Yes 2 = No

_____ Employed full-time	_____ Graduate student
_____ Employed part-time	_____ Military service
_____ Student at COM	_____ Unemployed, seeking employment
_____ Student at another 2 year college	_____ Unemployed, not seeking employment
_____ Undergraduate student at senior college	

PLEASE COMPLETE IF YOU ARE EMPLOYED, OR IF YOU HAVE BEEN EMPLOYED SINCE LEAVING COLLEGE OF THE MAINLAND

DID COURSES AT COLLEGE OF THE MAINLAND HELP YOU IN ANY OF THE FOLLOWING WAYS?

1 = Yes 2 = No

_____ Helped me obtain a job	_____ Helped me advance on job
_____ Helped me perform job	_____ Prepared me for job available in my community

How satisfied are you with your work position? (Circle one)

Extremely satisfied 01; Satisfied 02; Neither satisfied nor unsatisfied 03; Unsatisfied 04; Extremely unsatisfied 05

Could you have gotten your present job without your education at COM?

Yes 01 Possible 02 No 03 Do not know 04

To what extent have you made use on the job of the education you had at COM?

Considerable use 01 Moderate use 02 Very little use 03

Is your job related to your stated major at College of the Mainland?

Directly related 01 Related 02 Somewhat related 03 Unrelated 04

TO BE COMPLETED IF YOU HAVE ENTERED ANY UPPER LEVEL OR SENIOR COLLEGE SINCE LEAVING COLLEGE OF THE MAINLAND?

_____ Date of first enrollment at 4-year institution:

1. Summer, 1972 2. Fall, 1972 3. Spring, 1973
4. Summer, 1973 5. Fall, 1973 6. Spring 1974
7. Summer, 1974 8. Fall, 1974 9. Other_____

_____ Present enrollment status:

Received degree----------01
Enrolled part-time----------02
Enrolled full-time----------03
Not enrolled, plan to continue----------04
Not enrolled, do not plan to continue----------05

Name of four year institution(s) _____

_____

_____

What is (was) your current or last major?_____

Please rate the preparation you received for further education from College of the Mainland?

Escellent 01 Good 02 Fair 03 Poor 04 Very poor 05

What is (was) your overall grade point average in upper level or senior college(s)?

Less than 1.0----------01
1.0 to 1.4----------02
1.5 to 1.9----------03
2.0 to 2.4----------04
2.5 to 2.9---------05
3.0 to 3.4---------06
3.5 to 3.9---------07
4.0----------08

ITEMS _____ LIST VARIOUS DIFFICULTIES SOME STUDENTS EXPERIENCE IN COLLEGE. PLEASE INDICATE THE DEGREE OF DIFFICULTY YOU EXPERIENCED IN COLLEGE OF THE MAINLAND ON THE LEFT AND IN THE SENIOR COLLEGE OR UNIVERSITY ON THE RIGHT IN THE AREAS LISTED BELOW. USE THE FOLLOWING CODE IN RECORDING YOUR RESPONSE.

1. No difficulty
2. Little difficulty
3. Moderate difficulty
4. Extreme difficulty

DIFFICULTY IN COLLEGE OF THE MAINLAND		DIFFICULTY IN SENIOR COLLEGE OR UNIVERSITY
_____	Meeting scholastic requirements	_____
_____	Meeting student intellectual competition	_____
_____	Passing exams and tests	_____
_____	Establishing satisfactory relationships with other students	_____
_____	Establishing satisfactory instructor-student relationships	_____
_____	Getting involved in campus activities	_____
_____	Receiving friendliness and individual attention from faculty	_____
_____	Getting good quality instruction	_____
_____	Obtaining personal counseling	_____
_____	Obtaining career counseling	_____
_____	Obtaining academic counseling	_____
_____	Transportation to campus	_____

APPENDIX E

office of educational research

college of the mainland

December 18, 1975

Dear Former Student

College of the Mainland is continually evaluating each of our programs in order to improve the quality of our college. We believe that the best method of doing this is to ask for the opinions, both good and bad, of our students and former students.

We recently mailed you a questionnaire requesting information concerning your experiences at College of the Mainland. We have not, as yet, received a response from you. We are particularly interested in obtaining a response from each individual.

Therefore, we are enclosing a second copy of the questionnaire and a pre-addressed, postage paid, return envelope for your convenience.

We sincerely would appreciate your taking a few minutes to assist us in this project.

Thank you very much for your cooperation.

Sincerely,

Ann Stefani

Ann F. Stefani
Project Director

AS/jm

8001 palmer highway texas city, texas 77590 (713) 938-1211

The staff of the Educational Research Office at College of the Mainland would like to take this opportunity to wish each of you HAPPY HOLIDAYS!

We would like to thank those who have returned our questionnaire and to ask those who have not yet responded to please help us by doing so today.

office of educational research

college of the mainland

January 15, 1976

Dear Follow-Up Sample Member:

We are sending this by certified mail in case our earlier letters didn't reach you. Please understand we are not trying to harass you with these repeated letters, but our deadline is drawing near and we want everyone to have a chance to participate in the FOLLOW-UP Survey.

Please help us determine how well we served you at College of the Mainland, and how we can improve, by completing the enclosed FOLLOW-UP questionnaire and background information sheet, and returning them in the enclosed postage paid envelope.

If you've already returned the questionnaire, please accept our thanks and apologies for this reminder. If you've been intending to do it, but haven't yet for one reason or another, please do it now and return it as soon as possible.

You will be performing a valuable social service in helping to measure the quality of public higher education, and no one else can speak for you.. Your answers are completely confidential, of course.

If you have any questions about the survey or tne questionnaire, please call me collect at (713) 938-1211 ext. 429, and I will return your call. Feel free to add your comments on the back of the questionnaire or on separate sheets.

Thanks for your help,

Larry Wilkinson

Larry Wilkinson, Director
Educational Research

LW/jm

8001 palmer highway texas city, texas 77590 (713) 938-1211

office of educational research

college of the mainland

February 27, 1976

Dear Follow-Up Sample Member:

During the past few months we have sent several copies of our questionnaire to you. Unfortunately we have not yet received a response from you. As evidenced by our diligent efforts to reach you, we sincerely need and want your participation in this project because of its social importance.

We realize that the questionnaire is lenghtly and asks some very personal questions. This is because we are trying to collect as much information as possible from each sample member in order to evaluate how well College of the Mainland served the needs of the entire student body.

If you are opposed to answering certain questions, please respond to all of those that you feel are appropriate. Please, remember that all of the information you give will be in strict confidence.

If you have already responded please accept our apologies for this final letter.

Thank you very much,

Ann F. Stefani

Ann F. Stefani
Project Director

P. S. If you have any questions please feel free to contact me at (713) 938-1211 ext. 429.

8001 palmer highway texas city, texas 77590 (713) 938-1211

APPENDIX F

Table of random numbers*

Eleventh thousand

	1–4	5–8	9–12	13–16	17–20	21–24	25–28	29–32	33–36	37–40
1	20 17	42 28	23 17	59 66	38 61	02 10	86 10	51 55	92 52	44 25
2	74 49	04 49	03 04	10 33	53 70	11 54	48 63	94 60	94 49	57 38
3	94 70	49 31	38 67	23 42	29 65	40 88	78 71	37 18	48 64	06 57
4	22 15	78 15	69 84	32 52	32 54	15 12	54 02	01 37	38 37	12 93
5	93 29	12 18	27 30	30 55	91 87	50 57	58 51	49 36	12 53	96 40
6	45 04	77 97	36 14	99 45	52 95	69 85	03 83	51 87	85 56	72 37
7	44 91	99 49	89 39	94 60	48 49	06 77	64 72	59 26	08 51	25 57
8	16 23	91 02	19 96	47 59	89 65	27 84	30 92	63 37	26 24	23 66
9	04 50	65 04	65 65	82 42	70 51	55 04	61 47	88 83	99 34	82 37
10	32 70	17 72	03 61	66 26	24 71	22 77	88 33	17 78	08 92	73 49
11	03 64	59 07	42 95	81 39	06 41	20 81	92 34	51 90	39 08	21 42
12	62 49	00 90	67 86	93 48	31 83	19 07	67 68	49 03	27 47	52 03
13	61 00	95 86	98 36	14 03	48 88	51 07	33 40	06 86	33 76	68 57
14	89 03	90 49	18 74	21 04	09 96	60 45	22 03	52 80	01 79	33 81
15	01 72	33 85	52 40	60 07	06 71	89 27	14 29	55 24	85 79	31 96
16	27 56	49 79	34 34	32 22	60 53	91 17	33 26	44 70	93 14	99 70
17	45 05	74 48	10 55	35 25	24 28	20 22	35 66	66 34	26 35	91 23
18	49 74	37 25	97 26	33 94	42 23	01 28	59 58	92 69	03 66	73 82
19	20 26	22 43	88 08	19 85	08 12	47 65	65 63	56 07	97 85	56 79
20	48 87	77 96	43 39	76 93	08 79	22 18	54 55	93 75	97 26	90 77
21	08 72	87 46	75 73	00 11	27 07	05 20	30 85	22 21	04 67	19 13
22	95 97	98 62	17 27	31 42	64 71	46 22	32 75	19 32	20 99	94 85
23	37 99	27 31	70 40	46 55	46 12	24 32	36 74	69 20	72 10	95 93
24	05 79	58 37	85 33	75 18	88 71	23 44	54 28	00 48	96 23	66 45
25	55 85	63 42	00 79	91 22	29 01	41 39	51 40	36 65	26 11	78 32

APPENDIX G

Sampling Chart

Russell L. Ackoff

Type of Sampling	*Brief Description*	*Advantages*	*Disadvantages*
A. Simple random	Assign to each population member a unique number; select sample items by use of random numbers	1. Requires minimum knowledge of population in advance 2. Free of possible classification errors 3. Easy to analyze data and compute errors	1. Does not make use of knowledge of population which researcher may have 2. Larger errors for same sample size than in stratified sampling
B. Systematic	Use natural ordering or order population; select random starting point between 1 and the nearest integer to the sampling ratio (N/n); select times at interval of nearest integer to sampling ratio	1. If population is ordered with respect to pertinent property, gives stratification effect, and hence reduces variability compared to A 2. Simplicity of drawing sample; easy to check	1. If sampling interval is related to a periodic ordering of the population, increased variability may be introduced 2. Estimates of error likely to be high where there is stratification effect
C. Multistage random	Use a form of random sampling in each of the sampling stages where there are at least two stages	1. Sampling lists, identification, and numbering required only for members of sampling units selected in sample 2. If sampling units are geographically defined, cuts down field costs (i.e., travel)	1. Errors likely to be larger than in A or B for same sample size 2. Errors increase as number of sampling units selected decreases
1. With probability proportionate to size	Select sampling units with probability proportionate to their size	1. Reduces variability	1. Lack of knowledge of size of each sampling unit before selection increases variability
D. Stratified 1. Proportionate	Select from every sampling unit at other than last stage a random sample proportionate to size of sampling unit	1. Assures representativeness with respect to property which forms basis of classifying units; therefore yields less variability than A or C 2. Decreases chance of failing to include members of population because of classification process 3. Characteristics of each stratum can be estimated, and hence comparisons can be made	1. Requires accurate information on proportion of population in each stratum, otherwise increases error 2. If stratified lists are not available, may be costly to prepare them; possibility of faulty classification and hence increase in variability
2. Optimum allocation	Same as 1 except sample is proportionate to variability within strata as well as their size	1. Less variability for same sample size than 1	1. Requires knowledge of variability of pertinent characteristic within strata
3. Disproportionate	Same as 1 except that size of sample is not proportionate to size of sampling unit but is dedicated by analytical considerations or convenience	1. More efficient than 1 for comparison of strata or where different errors are optimum for different strata	1. Less efficient than 1 for determining population characteristics; i.e., more variability for same sample size
E. Cluster	Select sampling units by some form of random sampling; ultimate units are groups; select these at random and take a complete count of each	1. If clusters are geographically defined, yields lowest field costs 2. Requires listing only individuals in selected clusters 3. Characteristics of clusters as well as those of population can be estimated 4. Can be used for subsequent samples, since clusters, not individuals, are selected, and substitution of individuals may be permissible	1. Larger errors for comparable size than other probability samples 2. Requires ability to assign each member of population uniquely to a cluster; inability to do so may result in duplication or omission of individuals
F. Stratified cluster	Select clusters at random from every sampling unit	1. Reduces variability of plain cluster sampling	1. Disadvantages of stratified sampling added to those of cluster properties 2. Since cluster properties may change, advantage of stratification may be reduced and make sample unusable for later research

Type of Sampling	*Brief Description*	*Advantages*	*Disadvantages*
G. Repetitive: multiple or sequential	Two or more samples of any of the above types are taken, using results from earlier samples to design later ones, or determine if they are necessary	1. Provides estimates of population characteristics which facilitate efficient planning of succeeding sample, therefore reduces error of final estimate 2. In the long run reduces number of observations required	1. Complicates administration of fieldwork 2. More computation and analysis required than in nonrepetitive sampling 3. Sequential sampling can only be used where a very small sample can approximate representativeness and where the number of observations can be increased conveniently at any stage of the research
H. Judgment	Select a subgroup of the population which, on the basis of available information, can be judged to be representative of the total population; take a complete count or subsample of this group	1. Reduces cost of preparing sample and fieldwork, since ultimate units can be selected so that they are close together	1. Variability and bias of estimates cannot be measured or controlled 2. Requires strong assumptions or considerable knowledge of population and subgroup selected
I. Quota	Classify population by pertinent properties; determine desired proportion of sample from each class; fix quotas for each observer	1. Same as above 2. Introduces some stratification effect	1. Introduces bias of observers' classification of subjects and nonrandom selection within classes

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APPENDIX H

The following is a summary of the Statistically Significant Differences found in this year's follow-up survey. These differences were determined by using a significant level of less than .05 for a Chi-Square test.

This was a survey of a random sample (500) of all students enrolled at COM for the Spring Semester of 1973. These results are based on the 243 (48.6%) former students who responded.

AGE BY COUNSELING (p=.0154)

Among those students 35 years and older, 86% (n=36) rated the counseling services at COM as either good or excellent. Of those students under 25 years, only 56% (n=66) rated the counseling as good or excellent.

AGE	COUNT / ROW PCT / COL PCT / TOT PCT	COUNSL GOOD 2.	FAIR 3.	VERY POOR 5.	ROW TOTAL
LESS THAN 25	1.	66	36	15	117
		56.4	30.8	12.8	52.9
		47.8	63.2	57.7	
		29.9	16.3	6.8	
25 THRU 34	2.	36	17	5	62
		58.1	27.4	14.5	28.1
		26.1	29.8	34.6	
		16.3	7.7	4.1	
35 AND OLDER	3.	36	4	2	42
		85.7	9.5	4.8	19.0
		26.1	7.0	7.7	
		16.3	1.8	.9	
COLUMN TOTAL		138	57	26	221
		62.4	25.8	11.8	100.0

AGE BY FULL-TIME EMPLOYMENT (p=.0006)

Older students were found to be more often employed full-time than the younger student. Among those students under 25, 63% (n=70) were employed full-time. Full-time employment among the 25-34 years of age group was 87% (n=54) and 83% (n=34) among those 35 years and older.

	EMPFT		
COUNT / ROW PCT / COL PCT / TOT PCT	YES 1.	NO 2.	ROW TOTAL
AGE			
1. LESS THAN 25	70 / 62.5 / 44.3 / 32.6	42 / 37.5 / 73.7 / 19.5	112 / 52.1
2. 25 THRU 34	54 / 87.1 / 34.2 / 25.1	8 / 12.9 / 14.0 / 3.7	62 / 28.8
3. 35 AND OLDER	34 / 82.9 / 21.5 / 15.8	7 / 17.1 / 12.3 / 3.3	41 / 19.1
COLUMN TOTAL	158 / 73.5	57 / 26.5	215 / 100.0

AGE BY PARENTS (p=.0000)

Younger students were more likely to receive financial support from their parents at sometime or another while attending COM. This was most evident among those less than 25 years of age--66% (n=64). Only 23% (n=9) of those 25-34 years of age lived with their parents. No student 35 years of age and over (0%,n=14) were living with their parents.

	PARENTS			
COUNT / ROW PCT / COL PCT / TOT PCT	ALL OR N EARLY 1.	SOME 4.	NONE 5.	ROW TOTAL
AGE				
1. LESS THAN 25	34 / 35.1 / 91.9 / 22.5	30 / 30.9 / 83.3 / 19.9	33 / 34.0 / 42.3 / 21.9	97 / 64.2
2. 25 THRU 34	3 / 7.5 / 8.1 / 2.0	6 / 15.0 / 16.7 / 4.0	31 / 77.5 / 39.7 / 20.5	40 / 26.5
3. 35 AND OLDER	0 / .0 / .0 / .0	0 / .0 / .0 / .0	14 / 100.0 / 17.9 / 9.3	14 / 9.3
COLUMN TOTAL	37 / 24.5	36 / 23.8	78 / 51.7	151 / 100.0

SEX BY TEACHING (p=.0284)

82% (n=99) of the females at COM rated the teaching as GOOD, while 89% (n=108) of the males responded with GOOD. 6% of the females (n=6) provided the only POOR responses with regard to teaching quality.

SEX	TEACH 1. GOOD	2. FAIR	3. VERY POOR	ROW TOTAL
1. MALE	108	14	0	122
	88.5	11.5	.0	52.8
	54.8	50.0	.0	
	46.8	6.1	.0	
2. FEMALE	89	14	6	109
	81.7	12.8	5.5	47.2
	45.2	50.0	100.0	
	38.5	6.1	2.6	
COLUMN TOTAL	197	28	6	231
	85.3	12.1	2.6	100.0

AGE BY STUDENT AT COM (p=.0221)

Across all age groups 82% (n=151) of the respondents were not currently COM students. Only 11% (n=11) of those 25 years and younger were students, 28% (n=14) of those 25-34 years of age were students, and 25% (n=8) of those 35 years of age and older were students.

AGE	SUDCOM 1. YES	2. NO	ROW TOTAL
1. LESS THAN 25	11	90	101
	10.9	89.1	54.9
	33.3	59.6	
	6.0	48.9	
2. 25 THRU 34	14	37	51
	27.5	72.5	27.7
	42.4	24.5	
	7.6	20.1	
3. 35 AND OLDER	8	24	32
	25.0	75.0	17.4
	24.2	15.9	
	4.3	13.0	
COLUMN TOTAL	33	151	184
	17.9	82.1	100.0

SEX BY PART-TIME EMPLOYMENT (p=.0066)

Overall, only 16% (n=29) of the respondents were employed part-time with females (25%,n=20) being employed on a part-time basis more often than males (9%,n=9).

SEX	EMPPT	YES	NO	ROW TOTAL
	COUNT	1.	2.	
	ROW PCT			
	COL PCT			
	TOT PCT			
MALE	1.	9	93	102
		8.8	91.2	55.7
		31.0	60.4	
		4.9	50.8	
FEMALE	2.	20	61	81
		24.7	75.3	44.3
		69.0	39.6	
		10.9	33.3	
COLUMN TOTAL		29	154	183
		15.8	84.2	100.0

SEX BY COM HELPING OBTAIN A JOB (p=.0009)

Overall, only 39% (n=76) were helped in getting a job with females (52%, n=46) indicating they were helped twice as often as did males (28%,n=30).

SEX	OBTAIN	YES	NO	ROW TOTAL
	COUNT	1.	2.	
	ROW PCT			
	COL PCT			
	TOT PCT			
MALE	1.	30	77	107
		28.0	72.0	54.9
		39.5	64.7	
		15.4	39.5	
FEMALE	2.	46	42	88
		52.3	47.7	45.1
		60.5	35.3	
		23.6	21.5	
COLUMN TOTAL		76	119	195
		39.0	61.0	100.0

AGE BY SENIOR COLLEGE GPA (p=.0080)

Students under 25 years reported senior college GPA's of either B (47%,n=17) or C (47%,n=17). Those ages 25-34 had senior college GPA's of predominantly C (55%,n=6) followed next by B (46%,n=5). Those ages 35 and over most often reported senior college GPA's of C (71%,n=5).

SRGPA

AGE	COUNT / ROW PCT / COL PCT / TOT PCT	LESS THAN 1.0	B 3.0	A 5.0	7.0	8.0	ROW TOTAL
1. LESS THAN 25		0	5	17	17	0	39
		.0	12.8	43.6	43.6	.0	68.4
		.0	100.0	60.7	77.3	.0	
		.0	8.8	29.8	29.8	.0	
2. 25 THRU 34		0	0	6	5	0	11
		.0	.0	54.5	45.5	.0	19.3
		.0	.0	21.4	22.7	.0	
		.0	.0	10.5	8.8	.0	
3. 35 AND OLDER		1	0	5	0	1	7
		14.3	.0	71.4	.0	14.3	12.3
		100.0	.0	17.9	.0	100.0	
		1.8	.0	8.8	.0	1.8	
COLUMN TOTAL		1	5	28	22	1	57
		1.8	8.8	49.1	38.6	1.8	100.0

AGE BY PERSONAL COUNSELING (p=.0244)

Overall, there was little difficulty reported in obtaining counseling, (93%,n=57) with those ages 25-34 expressing the greatest difficulty (23%,n=3) of all age groups.

PERCOUNM

AGE	COUNT / ROW PCT / COL PCT / TOT PCT	LITTLE DIFFICULT 2.0	MODERATE DIFFICU 3.0	ROW TOTAL
1. LESS THAN 25		39	1	40
		97.5	2.5	65.6
		68.4	25.0	
		63.9	1.6	
2. 25 THRU 34		10	3	13
		76.9	23.1	21.3
		17.5	75.0	
		16.4	4.9	
3. 35 AND OLDER		8	0	8
		100.0	.0	13.1
		14.0	.0	
		13.1	.0	
COLUMN TOTAL		57	4	61
		93.4	6.6	100.0

AGE BY CAREER COUNSELING (p=.0274)

Again, no major difficulty was reported with the exception of those between 25 and 34 years of age (33%,n=4) with regard to obtaining career counseling.

AGE	COL PCT / TOT PCT	IIFFICULT 1.	DIFFICU 2.	TOTAL
LESS THAN 25	1.	37	3	40
		92.5	7.5	66.7
		69.8	42.9	
		61.7	5.0	
25 THRU 34	2.	8	4	12
		66.7	33.3	20.0
		15.1	57.1	
		13.3	6.7	
35 AND OLDER	3.	8	0	8
		100.0	.0	13.3
		15.1	.0	
		13.3	.0	
COLUMN TOTAL		53	7	60
		88.3	11.7	100.0

RACE BY TYPE OF ASSISTANCE SOUGHT (p=.0106)

Blacks sought equally faculty (43%,n=3) and financial assistance (43%, n=3). Caucasians most often sought guidance (71%,n=10) followed by program changes (21%,n=3). Chicanos solely sought guidance (100%,n=3). Others solely sought faculty assistance (100%,n=1).

RACE	ROW PCT / COL PCT / TOT PCT	GUIDANCE 1.	PROGRAM CHANGE 2.	FACULTY 3.	FINANCIAL AID 5.	ROW TOTAL
BLACK	3.	1	0	3	3	7
		14.3	.0	42.9	42.9	28.0
		7.1	.0	75.0	75.0	
		4.0	.0	12.0	12.0	
CAUCASIAN	4.	10	3	0	1	14
		71.4	21.4	.0	7.1	56.0
		71.4	100.0	.0	25.0	
		40.0	12.0	.0	4.0	
CHICANO	5.	3	0	0	0	3
		100.0	.0	.0	.0	12.0
		21.4	.0	.0	.0	
		12.0	.0	.0	.0	
OTHER	10.	0	0	1	0	1
		.0	.0	100.0	.0	4.0
		.0	.0	25.0	.0	
		.0	.0	4.0	.0	
COLUMN TOTAL		14	3	4	4	25
		56.0	12.0	16.0	16.0	100.0

RACE BY MAJOR (p=.0007)

Blacks (85%,n=33), Caucasians (63%,n=104), and Chicanos (100%,n=14) showed a greater tendency for Tech-Voc majors while others favored academic majors (75%,n=3) over Tech-Voc.

RACE	ROW PCT / COL PCT / TOT PCT	ACADEMIC (3.)	TECH VOC (13.)	ROW TOTAL
BLACK (3.)		6	33	39
		15.4	84.6	17.6
		8.6	21.7	
		2.7	14.9	
CAUCASIAN (8.)		61	104	165
		37.0	63.0	74.3
		87.1	68.4	
		27.5	46.8	
CHICANO (5.)		0	14	14
		.0	100.0	6.3
		.0	9.2	
		.0	6.3	
OTHER (10.)		3	1	4
		75.0	25.0	1.8
		4.3	.7	
		1.4	.5	
COLUMN TOTAL		70	152	222
		31.5	68.5	100.0

AGE BY COMFORTABILITY WITH COM (p=.0084)

There was generally a high degree of comfortableness with COM in all age groups (89%,n=142) although those 25-34 years of age (1.4%,n=3) did express some discomfort.

AGE	COUNT / ROW PCT / COL PCT / TOT PCT	COMFCOM COMFORTABLE (1.)	(2.)	NEUTRAL (3.)	(4.)	(5.)	UNCOMFORTABLE (7.)	ROW TOTAL
LESS THAN 25 (1.)		68	24	10	7	3	0	112
		60.7	21.4	8.9	6.3	2.7	.0	52.1
		47.9	70.6	62.5	41.2	100.0	.0	
		31.6	11.2	4.7	3.3	1.4	.0	
25 THRU 34 (2.)		37	9	5	6	0	3	60
		61.7	15.0	8.3	10.0	.0	5.0	27.9
		26.1	26.5	31.3	35.3	.0	100.0	
		17.2	4.2	2.3	2.8	.0	1.4	
35 AND OLDER (3.)		37	1	1	4	0	0	43
		86.0	2.3	2.3	9.3	.0	.0	20.0
		26.1	2.9	6.3	23.5	.0	.0	
		17.2	.5	.5	1.9	.0	.0	
COLUMN TOTAL		142	34	16	17	3	3	215
		66.0	15.8	7.4	7.9	1.4	1.4	100.0

SEX BY DISCRIMINATION (p=.0221)

There was a tendency to view COM as not being discriminatory (64%) with females (70%,n=63) adhering to this belief more often than males (58%,n=62). 26% (n=51) of the respondents were neutral on this matter while 3% of the females (n=3) and 16% (n=17) of the males believed COM to be discriminatory.

DISCRCOM

COUNT / ROW PCT / COL PCT / TOT PCT	DISCRIMINATORY 1.	2.	3.	NEUTRAL 4.	5.	6.	NON DISCRIM 7.	ROW TOTAL
SEX								
1. MALE	8	4	5	27	10	12	40	106
	7.5	3.8	4.7	25.5	9.4	11.3	37.7	54.1
	72.7	100.0	100.0	52.9	76.9	42.9	47.6	
	4.1	2.0	2.6	13.8	5.1	6.1	20.4	
2. FEMALE	3	0	0	24	3	16	44	90
	3.3	.0	.0	26.7	3.3	17.8	48.9	45.9
	27.3	.0	.0	47.1	23.1	57.1	52.4	
	1.5	.0	.0	12.2	1.5	8.2	22.4	
COLUMN TOTAL	11	4	5	51	13	28	84	196
	5.6	2.0	2.6	26.0	6.6	14.3	42.9	100.0

SEX BY USUAL - UNUSUALNESS OF COM (p=.0444)

Overall, 32.6% (n=63) reported COM as being neutral in this regard while 43.6% responded to the "usual" side of neutral and 23.9% (n=46) to the "unusual" side.

USUALCOM

COUNT / ROW PCT / COL PCT / TOT PCT	USUAL 1.	2.	3.	NEUTRAL 4.	5.	6.	UNUSUAL 7.	ROW TOTAL
SEX								
1. MALE	23	17	6	32	8	8	10	104
	22.1	16.3	5.8	30.8	7.7	7.7	9.6	53.9
	48.9	85.0	35.3	50.8	53.3	47.1	71.4	
	11.9	8.8	3.1	16.6	4.1	4.1	5.2	
2. FEMALE	24	3	11	31	7	9	4	89
	27.0	3.4	12.4	34.8	7.9	10.1	4.5	46.1
	51.1	15.0	64.7	49.2	46.7	52.9	28.6	
	12.4	1.6	5.7	16.1	3.6	4.7	2.1	
COLUMN TOTAL	47	20	17	63	15	17	14	193
	24.4	10.4	8.8	32.6	7.8	8.8	7.3	100.0

AGE BY COM GPA (p=.0009)

Overall, a GPA of 3.0 was most often reported (47.6%,n=107) followed by 4.0 (23.6%,n=53) then 2.0 (22.7%). Those 25 years of age and under (49%,n=55) and those between 25-34 (55%,n=37) reported a GPA of 3.0 most often followed by 2.0 (23%,n=26; 24%,n=16, respectively). Those students 35 years and older had the highest percentage of 4.0's (45.7%,n=21) followed by 3.0 (33%,n=15).

	COMGR				
	COUNT / ROW PCT / COL PCT / TOT PCT	1.0	2.0	3.0	4.0	ROW TOTAL
AGE						
1. LESS THAN 25		12	26	55	19	112
		10.7	23.2	49.1	17.0	49.8
		85.7	51.0	51.4	35.8	
		5.3	11.6	24.4	8.4	
2. 25 THRU 34		1	18	37	13	67
		1.5	23.9	55.2	19.4	29.8
		7.1	31.4	34.6	24.5	
		.4	7.1	16.4	5.8	
3. 35 AND OLDER		1	9	15	21	46
		2.2	19.6	32.6	45.7	20.4
		7.1	17.6	14.0	39.6	
		.4	4.0	6.7	9.3	
COLUMN TOTAL		14	51	107	53	225
		6.2	22.7	47.6	23.6	100.0

AGE BY MAJOR (p=.0548)

There was a greater number of respondents who majored in Tech-Voc with those 25 years and under (62%,n=71) comprising the largest number. Those under 25 also had the greatest number of academic majors (38%,n=44) and this number declined drastically with age.

	MAJOR		
	COUNT / ROW PCT / COL PCT / TOT PCT	ACADEMIC 3.0	TECH VOC 13.0	ROW TOTAL
AGE				
1. LESS THAN 25		44	71	115
		38.3	61.7	51.3
		62.9	46.1	
		19.6	31.7	
2. 25 THRU 34		14	51	65
		21.5	78.5	29.0
		6.3	22.8	
3. 35 AND OLDER		12	32	44
		27.3	72.7	19.6
		17.1	20.8	
		5.4	14.3	
COLUMN TOTAL		70	154	224
		31.3	68.8	100.0

SEX BY FEELING ABOUT NOT ACCOMPLISHING GOALS (p=.0328)

A greater number of females were both uncomfortable (44%,n=24) and comfortable (25%,n=14) in comparison to males on uncomfortable (29%,n=20) and comfortable (16%,n=11). Males however, responded much more with neutral (34%,n=37) than did females (31%,n=17).

SEX	FEELING	COMFORTABLE 2.	NEUTRAL 3.	UNCOMFORTABLE 4.	ROW TOTAL
MALE 1.	COUNT	11	37	20	68
	ROW PCT	16.2	54.4	29.4	55.3
	COL PCT	44.0	68.5	45.5	
	TOT PCT	8.9	30.1	16.3	
FEMALE 2.	COUNT	14	17	24	55
	ROW PCT	25.5	30.9	43.6	44.7
	COL PCT	56.0	31.5	54.5	
	TOT PCT	11.4	13.8	19.5	
COLUMN TOTAL		25	54	44	123
		20.3	43.9	35.8	100.0

SEX BY COM GPA (p=.0000)

Females (34%,n=35) made 4.0 more often compared to males (14%,n=17). Females (51%,n=53) also made 3.0 more often than males (45%,n=53). Females (11%,n=11) did not make 2.0 more often than males (34%,n=40). Females (4%,n=4) made 1.0 less often than males (6%,n=7)

SEX	COMGR	1.	2.	3.	4.	ROW TOTAL
MALE 1.	COUNT	7	40	53	17	117
	ROW PCT	6.0	34.2	45.3	14.5	53.2
	COL PCT	63.6	78.4	50.0	32.7	
	TOT PCT	3.2	18.2	24.1	7.7	
FEMALE 2.	COUNT	4	11	53	35	103
	ROW PCT	3.9	10.7	51.5	34.0	46.8
	COL PCT	36.4	21.6	50.0	67.3	
	TOT PCT	1.8	5.0	24.1	15.9	
COLUMN TOTAL		11	51	106	52	220
		5.0	23.2	48.2	23.6	100.0

Comparison of 1975 and 1976 Data

FOLLOW-UP SURVEY:

STATISTICAL BREAKDOWN OF RESPONSES (Spring 1972 and 1973)

BACKGROUND INFORMATION

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
1. What is your current marital status?						
Single		65		26.7		27.4
Single and living with someone of opposite sex		3		1.2		1.3
Married		153		63.0		64.6
Separated		5		2.1		2.1
Divorced		11		4.5		4.6
Widowed		0		0		0
2. Who lives in your household?						
I live alone		20		8.2		8.3
Family		158		65.0		65.8
Extended family		42		17.3		17.5
Others not related		18		7.4		7.5
No Response		3		1.2		
3. What is your age?						
Less than 25	112	120	46.7	49.4	52.6	50.2
25-34	52	69	21.7	28.4	24.4	28.9
35 and over	49	50	20.5	20.6	23.0	20.9
No Response	27	4	11.3	1.6		
4. Range ----- 14-55 years.						
SEX						
Male	111	125	46.3	51.4	48.5	52.3
Female	118	111	49.2	45.7	51.5	46.4
No Response	11	5	4.6	2.0		
5. Total number of children.						
None	133	112	55.4	46.1		
1-4	107	115	44.4	47.3		
5-8	0	16	0	6.6		
6. Total number of siblings						
None	56	83	23.3	34.2		
1-5	184	131	76.7	53.9		
6-11	0	29		11.9		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
7. Race.						
Black	41	42	17.1	17,3	17,2	17.6
Caucasian	181	176	75,4	72.4	76,1	73,9
Chicano	11	15	4,6	6,2	4.6	6.3
Other	5	5	2.1	2.1	2,1	2.1
No Response	2	5	0.8	2.1		
8. How long have you lived in Houston Galveston Area?						
Range	2 years to 54 years					
Mean	19.9 years					
9. Father's income before taxes.						
Range	Less than $1,000 to $50,000					
Mean	$15,371					
10. Present family's income						
Range	Less than $1,000 to $50,000					
Mean	$12,703					
11. Highest Level of education completed by your father.						
None		2		.8		.9
Some grade school and/or high school		94		38.7		41.6
Graduated from high school or G.E.D.		45		18.5		19.9
Some college trade school, etc.		45		18.5		19.9
Graduated from 2 year college		4		1.6		1.8
Graduated from 4 year college		10		4.1		4.4
Some graduate or professional school		3		1,2		1.3
Graduate or professional degree		9		3.7		4.0
Don't know		14		5.8		6.2
No Response		17		7.0		
12. Highest level of education completed by your mother.						
None		3		1.2		1.3
Some grade school and/or high school		79		32.5		34.3
Graduated from high school or G.E.D.		69		28.4		30.0
Some college,trade school, etc.		43		17.7		18.7
Graduated-2yr. college		5		2.1		2.2
Graduated-4yr. college		10		4.1		4.3

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
Some graduate or professional school		3		1.2		1.3
Graduate or professional degree		7		2.9		3.0
Don't know		10		4.1		4.3
No Response		14		5.8		
13. Name of high school from which you graduated.						
Texas City		63		25.9		28.4
La Marque		46		18.9		20.7
GED		17		7.0		7.7
Santa Fe		9		3.7		4.1
Dickinson		8		3.3		3.6
Lincoln High		8		3.3		3.6
Hitchcock		7		2.9		3.2
Other		64		26.3		28.8
No Response		21		8.6		
14. Type of high school program from which you graduated.						
College Prepatory		66		27.2		29.2
General		120		49.4		53.1
Vocational		19		7.8		8.4
G.E.D.		18		7.4		8.0
Did not graduate		1		.4		.4
Not Applicable		1		.4		.4
No Response		18		7.4		
15. What was your overall high school grade average?						
Less than 70	8	3	3.3	1.2	3.5	1.4
70-79	41	57	17.1	23.5	17.8	26.3
80-89	136	129	56.7	53.1	58.9	59.4
90-100	46	28	19.2	11.5	19.9	12.9
No Response	9	26	3.8	10.7		
16. What was your rank in high school graduating class?						
Top 10%		22		9.1		11.1
Top 25%		52		21.4		26.3
Top 50%		77		31.7		38.9
Top 75%		24		9.9		12.1
Lower 25%		15		6.2		7.6
No Response		53		21.7		
17. Military Status.						
Veteran receiving GI benefits		31		12.8		15.0
Veteran not receiving GI benefits		19		7.8		9.2
Active duty		8		3.3		3.9
Not applicable		149		61.3		72.0
No Response		36		14.8		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
18. Why did you decide to attend a two year college?						
It offered specific programs I needed	41					
It offered more personal environment	29					
Lower tuition	17					
19. Why did you choose College of the Mainland?						
Geographic location	59					
Cost	35					
Convenience	24					
20. Did you seek a degree at College of the Mainland?						
Yes	123		50.6		53.7	
No	106		43.6		46.3	
No Response	14		5.8			
21. If yes, what degree?						
AA	65		26.7		56.5	
AAS	34		14.0		29.6	
Diploma	8		3.3		7.0	
Certificate	8		3.3		7.0	
No Response	128		52.7			
22. What other goals were you seeking to accomplish by coming to college?						
Preparation for a job	47					
Get a better job	27					
Improve myself	33					
23. Did you accomplish your goal(including degree)?						
Yes	117	109	48.8	44.9	49.8	49.3
No	118	110	49.2	45.3	50.3	49.8
No Response	5	44	2.1	9.9		
24. If yes, did you ever consider stopping your education before accomplishing your goal?						
Yes	40		16.5		29.2	
No	97		39.9		70.8	
No Response	106		42.8			

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
25. If yes, what influenced your decision to stay?						
Guidance and counseling		5		2.1		8.6
Change of study program		7		2.9		12.1
Talked with faculty		1		.4		1.7
Sought financial aid		2		.8		3.4
Talked with veteran rep.		1		.4		1.7
Encouragement		11		4.5		19.0
Personal determination		25		10.3		43.1
No Response		185		75.9		
26. If you did not complete your goal, answer the following 5 questions. If not, why not?						
I am still pursuing the goal		49				
Took a job	31	13				
Got married		4				
27. Did you seek any assistance from COM which might have allowed you to stay?						
Yes		22		9.1		17.7
No		102		42.0		82.3
No Response		119		49.0		
28. If yes, what type of assistance?						
Guidance		14		5.8		56.0
Program change		3		1.2		12.0
Faculty		4		1.6		16.0
Financial Aid		4		1.6		16.0
No Response		218		89.7		
29. Which of the following best represents your feelings about not accomplishing your goal?						
Very comfortable		11		4.5		8.8
Comfortable		14		5.8		11.2
Neutral		55		22.6		44.0
Uncomfortable		28		11.5		22.4
Very uncomfortable		17		7.0		13.6
No Response		118		48.6		
30. In general, what were the reasons you did not complete your goal?						
Personal reasons		103		42.4		92.8
Things about COM		8		3.3		7.2
No Response		132		54.3		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
THIS SECTION TO BE COMPLETED BY EVERYONE						
31. Which of the following best describes your feelings about your educational experiences at College of the Mainland?						
Very satisfied	103	97	42.9	39.9	44.2	42.0
Satisfied	94	87	39.2	35.8	40.3	37.7
Neutral	21	30	8.8	12.3	9.0	13.0
Dissatisfied	14	12	5.8	4.9	6.0	5.2
Very dissatisfied	1	5	0.4	2.1	0.4	2.2
No Response	7	12	2.9	4.9		
32. What was your approximate grade average at College of the Mainland?						
Less than a C	8	14	3.3	5.8	3.5	6.2
C	41	51	17.1	21.0	17.8	22.7
B	136	107	56.7	44.0	58.9	47.5
A	46	53	19.2	21.8	19.9	23.5
No Response	9	18	3.8	7.4		
33. While attending College of the Mainland, I was primarily a:						
Full-time student,not employed	47	39	19.6	16.0	20.3	16.7
Full-time student,full-time employment	24	26	10.0	10.7	10.3	11.1
Full-time student,part-time employment	66	57	27.5	23.5	28.5	24.4
Part-time student,full-time employment	70	77	29.2	31.7	30.2	32.9
Part-time student, part-time employment	16	8	6.7	7.4	6.9	7.7
Part-time student,concurrently enrolled in h.s. or other college	2	1	0.8	.4	0.9	.4
Part-time student,not employed	7	15	2.9	6.2	3.0	6.4
No Response	8	10	3.3	4.1		
34. Which of the following programs did you major in at COM?						
Natural Sciences-Math	34	28	14.2	11.5	14.9	12.5
Social Sciences	36	20	15.0	8.2	15.7	8.9
Humanities(fine arts)	24	22	10.0	9.1	10.5	9.8
Business	68	79	28.3	32.5	29.7	35.3
Nursing	15	23	6.3	9.5	6.6	10.3
Law Enforcement	10	5	4.2	2.1	4.4	2.2
Physical Education	1	1	0.4	.4	0.4	.4
Air Conditioning	0	6	0.0	2.5	0.0	2.7
Automotive	3	9	1.3	3.7	1.3	4.0
Drafting	9	9	3.6	3.7	3.9	4.0
Electronics	11	7	4.6	2.9	4.8	3.1
Graphic Arts	12	7	5.0	2.9	5.2	3.1
Welding	6	8	2.5	3.3	2.6	3.8

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
Tech-Voc	135	154	56.2	63.5	58.9	68.8
Academic	94	70	39.2	28.8	41.1	31.2
No Response	11	19	4.6	7.8		

35. What is the highest academic degree that your parents expect you to obtain?

None	76	31.3	36.5
AA, AAS	30	12.3	14.4
BA, BS	66	27.2	31.7
MA, MS	5	2.1	2.4
Ph.D., Ed. D	1	.4	.5
Medical Degree	3	1.2	1.4
Law Degree	5	2.1	2.4
Other	22	9.1	10.6
No Response	35	14.4	

36. What is the highest academic degree that you expect to obtain?

None	40	16.5	17.7
AA, AAS	48	19.8	21.2
BA, BS	72	29.6	31.9
MA, MS	34	14.0	15.0
Ph.D.,Ed.D.	4	1.6	1.8
Medical Degree	6	2.5	2.7
Law Degree	6	2.5	2.7
Other	16	6.6	7.1
No Response	17	7.0	

37. What could COM do to get you to stay or return?

More flexible schedules	26	10.7	13.8
More variety of classes	39	16.0	20.7
Make classes more relev.	9	3.7	4.8
Make classes less boring	7	2.9	3.7
Offer more financial aid	11	4.5	5.9
Reduce work required	11	4.5	5.9
Offer more counseling	6	2.5	3.2
Offer more job placement	3	1.2	1.6
Offer more child care	4	1.6	2.1
Offer transportation	4	1.6	2.1
Other	68	27.9	36.1
No Response	55	22.6	

38. Please estimate the portion of your college expenses from each source.

PARENTS OR GUARDIANS

All or nearly all	37	15.2	24.5
About 75%	12	4.9	7.9
About one-half	8	3.3	5.3
About 25%	16	6.6	10.6
None or almost none	78	32.1	51.7
No Response	92	37.9	

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
b) SPOUSE						
All or nearly all	25		10.3		19.1	
About 75%	7		2.9		5.3	
About one-half	5		2.1		3.8	
About 25%	9		3.7		6.9	
None or almost none	85		35.0		64.9	
No Response	112		46.1			
c) LOANS						
All or nearly all	6		2.5		4.8	
About 75%	6		2.5		4.8	
About one-half	8		3.3		6.4	
About 25%	12		4.9		9.6	
None or almost none	93		38.3		74.4	
No Response	118		48.6			
d) SCHOLARSHIPS AND GRANTS						
All or nearly all	26		10.7		19.5	
About 75%	8		3.3		6.0	
About one-half	3		1.2		2.3	
About 25%	10		4.1		7.5	
None or almost none	86		35.4		64.7	
No Response	110		45.3			
e) PERSONAL EARNINGS						
All or nearly all	85		35.0		48.3	
About 75%	15		6.2		8.5	
About one-half	11		4.5		6.3	
About 25%	30		12.3		17.0	
None or almost none	35		14.4		19.9	
No Response	67		27.6			
39. Please rate the overall quality of each of the following at COM.						
a) TEACHING STAFF						
Excellent	98	74	40.8	30.5	41.9	31.4
Good	103	127	42.9	52.3	44.0	53.8
Fair	29	28	12.1	11.5	12.4	11.9
Poor	4	6	1.7	2.5	1.7	2.5
Very Poor	0	1	0.0	.4	0.0	.4
No Response	6	7	2.5	2.9		
b) ACADEMIC STANDARDS						
Excellent	52	35	21.7	14.4	22.3	15.1
Good	117	122	48.8	50.2	50.2	52.6
Fair	49	63	20.4	25.9	21.0	27.2
Poor	14	8	5.8	3.3	6.0	3.4
Very Poor	1	4	0.4	1.6	0.4	1.7
No Response	7	11	2.9	4.5		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
c) ADMINISTRATION						
Excellent	61	46	25,4	18,9	26,5	20.4
Good	127	118	52,9	48,6	55.2	52.4
Fair	35	49	14,6	20,2	15.2	21,8
Poor	5	8	2,1	3,3	2.1	3.6
Very Poor	2	4	0,8	1,6	0.9	1.8
No Response	10	18	4.2	7,4		
d) REGISTRATION AND FEE PAYMENT						
Excellent	85	60	35.4	24.7	36.3	25.9
Good	104	110	43.4	45.3	44.4	47.4
Fair	38	49	15.8	20.2	16.2	21.1
Poor	6	8	2,5	3.3	2.6	3.4
Very Poor	1	5	0.4	2.1	0.4	2,2
No Response	6	11	2.5	4,5		
e) COUNSELING SERVICES						
Excellent	74	55	30.8	22,6	32.7	24.9
Good	95	83	40.0	34,2	42.0	37.6
Fair	38	57	15,8	23.5	16.8	25.8
Poor	11	21	4.6	8,6	4.9	9.5
Very Poor	8	5	3.3	2.1	3.5	2.3
No Response	14	22	5,8	9.1		
f) COURSE DOCUMENTS SYSTEM						
Excellent	72	72	30.0	29.6	32.0	31,9
Good	111	90	46,3	37.0	49,3	39.8
Fair	72	49	14,2	20,2	15,1	21.7
Poor	34	4	2,5	1.6	2,7	1.8
Very Poor	2	11	0.8	4,5	0,9	4.9
No Response	15	17	6,3	7.0		
g) VARIETY OF COURSES OFFERED						
Excellent	67	56	27,9	23,0	28,6	24.0
Good	103	103	42.9	42.4	44.0	44.2
Fair	53	62	22,1	25.5	22,7	26.6
Poor	7	8	2,9	3.3	3,0	3.4
Very Poor	4	3	1,7	1.2	1,7	1.3
No Response	6	11	2.5	4.5		
h) LIBRARY COLLECTIONS AND SERVICES						
Excellent	91	78	37.9	32,1	39.2	33.8
Good	112	114	46.7	46.9	48,3	49.4
Fair	25	33	10,4	13.6	10.8	14.3
Poor	4	4	1,7	1.6	1,7	1,7
Very Poor	0	1	0.0	.4	0.0	.4
No Response	8	13	3,3	5.3		

Question	Number		Percent of Total		Percent of those who responded	
	'72	'73	'72	'73	'72	'73
i) AUDIO-VISUAL COLLECTIONS AND SERVICES						
Excellent	93	88	38.8	36.2	41.5	38.8
Good	112	104	46.7	42.8	50.0	45.8
Fair	15	29	6.3	11.9	6.7	12.9
Poor	4	4	1.7	1.6	1.8	1.9
Very Poor	0	1	0.0	.4	0.0	.4
No Response	16	17	6.7	7.0		
j) ADVISOR SYSTEM						
Excellent	62	50	25.8	20.6	27.7	22.4
Good	92	99	38.3	40.7	41.1	44.4
Fair	50	53	20.8	21.8	22.3	23.8
Poor	13	16	5.4	6.6	5.8	7.3
Very Poor	7	4	2.9	1.6	3.1	1.9
No Response	16	21	6.7	8.6		
k) PARKING FACILITIES						
Excellent	56	65	23.3	26.7	24.1	27.7
Good	118	100	49.2	41.2	50.9	42.6
Fair	40	49	16.7	20.2	17.2	20.9
Poor	15	16	6.3	6.6	6.5	6.9
Very Poor	3	4	1.3	1.6	1.3	1.8
No Response	8	9	3.3	3.7		
l) SYSTEMATIC APPROACH TO TEACHING						
Excellent	67	53	27.9	21.8	29.8	23.8
Good	117	119	48.8	49.0	52.0	53.4
Fair	32	38	13.3	15.6	14.2	17.1
Poor	8	9	3.3	3.7	3.6	4.1
Very Poor	1	3	0.4	1.2	0.4	1.4
No Response	15	21	6.3	8.6		
40. Indicate if the time describes your PRESENT activities.						
a) EMPLOYED FULL-TIME						
yes	146	158	60.8	65.0	65.5	73.2
No	77	57	32.1	23.5	34.5	26.5
No Response	17	28	7.1	11.5		
b) EMPLOYED PART-TIME						
Yes	33	30	13.8	12.3	15.9	16.1
No	174	156	13.8	64.2	84.1	83.9
No Response	33	57	72.5	23.5		
c) STUDENT AT COLLEGE OF THE MAINLAND						
Yes	38	33	15.0	13.6	17.4	17.9
No	171	151	71.3	62.1	82.6	82.1
No Response	33	59	13.8	24.3		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
d) STUDENT AT ANOTHER 2 YEAR COLLEGE						
Yes	10	8	4.2	3.3	4.8	4.3
No	197	176	82.1	72.4	95.2	95.7
No Response	33	59	13.8	24.3		
e) UNDERGRADUATE STUDENT AT SENIOR COLLEGE						
Yes	61	40	25.4	16.5	28.9	21.9
No	150	143	65.5	58.8	71.1	78.1
No Response	29	60	12.1	24.7		
f) GRADUATE STUDENT AT SENIOR COLLEGE						
Yes	7	4	2.9	1.6	3.4	2.2
No	198	175	82.5	72.0	96.6	97.8
No Response	35	64	14.6	26.3		
g) MILITARY SERVICE						
Yes	5	11	2.1	4.5	2.5	6.1
No	199	170	82.9	70.0	97.6	93.9
No Response	36	62	15.0	25.5		
h) UNEMPLOYED, SEEKING EMPLOYMENT						
yes	22	14	9.2	5.8	10.7	7.7
No	183	167	76.3	68.7	89.3	92.3
No Response	35	62	14.6	25.5		
i) UNEMPLOYED, NOT SEEKING EMPLOYMENT						
Yes	26	20	10.8	8.2	12.8	10.9
No	178	163	74.2	67.1	82.3	89.1
No Response	36	60	15.0	24.7		

These questions were to be answered only by those former students who had been employed since leaving College of the Mainland.

41. Did courses at College of the Mainland help you in any of the following ways?

a) HELP YOU OBTAIN A JOB						
Yes	67	79	16.7	32.5	33.5	39.7
No	133	120	55.4	49.4	66.5	60.3
No Response	40	44	16.7	18.1		
b) HELP YOU PERFORM THE JOB						
Yes	108	125	45.0	51.4	53.5	59.5
No	94	85	39.2	35.0	46.5	40.5
No Response	38	33	15.8	13.6		
c) HELP YOU ADVANCE ON THE JOB						
Yes	69	71	28.8	29.2	34.3	35.5
No	132	129	55.0	53.1	65.7	64.5
No Response	39	43	16.3	17.7		
d) PREPARE YOU FOR A JOB AVAILABLE IN THE COMMUNITY						
Yes	61	71	25.4	29.2	31.6	35.1
No	132	131	55.0	53.9	68.4	64.9
No Response	47	41	19.6	16.9		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
42. How satisfied are you with your work position?						
Extremely satisfied	51	48	21.3	19.8	25.9	23.0
Satisfied	86	92	35.8	37.9	43.7	44.0
Neutral	35	45	14.6	18.5	17.8	21.5
Unsatisfied	17	18	7.1	7.4	8.6	8.6
Extremely unsatisfied	8	6	3.3	2.5	4.1	2.9
No Response	43	34	17.9	13.9		
43. Could you have gotten your present job without your education at COM?						
Yes	129	114	53.8	46.9	64.8	55.9
Possible	29	41	12.1	16.9	14.6	20.1
No	36	35	15.0	14.4	18.1	17.1
Don't Know	5	14	2.1	5.8	2.5	6.9
No Response	41	39	17.1	16.0		
44.a. To what extent have you made use on the job of the education you had at COM?						
Considerable	53	56	22.1	23.0	26.9	26.8
Moderate	70	92	29.2	37.9	35.5	44.0
Very little	74	61	30.8	25.1	37.6	29.2
No Response	43	34	17.9	13.9		
44.b. Is your job related to your stated major at College of the Mainland?						
Directly related	54	59	22.5	24.3	27.6	28.8
Related	21	25	8.8	10.3	10.8	12.2
Somewhat related	40	48	16.7	19.8	20.5	23.4
Unrelated	80	73	33.3	30.0	41.0	35.6
No Response	45	38	18.8	15.6		
45. To be completed if you have entered any upper level or senior college since leaving College of the Mainland.						
a) DATE OF FIRST ENROLLMENT AT 4 YEAR INSTITUTION						
Summer 1973	8	6	3.3	2.5	9.4	9.2
Fall 1973	27	14	11.3	5.8	31.8	21.5
Spring 1974	5	4	2.1	1.6	5.9	6.2
Summer 1974	4	5	1.7	2.1	4.7	7.7
Fall 1974	15	16	6.3	6.6	17.7	24.6
Spring 1975	2	5	0.8	2.1	2.4	7.7
Summer 1975	1	2	0.4	.8	1.2	3.1
Other	23	13	9.6	5.4	27.1	20.0
No Response	155	178	64.6	73.3		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
b) PRESENT ENROLLMENT STATUS:						
Received degree		4		1.6		6.8
Enrolled part-time	13	14	5.4	5.8	15.3	23.7
Enrolled full-time(under)	44	23	18.3	9.5	51.8	39.0
Enrolled full-time(grad)		5		2.1		8.5
Not enrolled,plan to	28	9	11.7	3.7	32.9	15.3
Not enrolled, not plan to		4		1.6		6.8
No Response	155	184	64.6	75.7		
46. Name of four year institution:						
University of Houston	46	28	19.2	11.5	56.8	46.7
University of Texas,Aust.	4	5	1.7	2.1	4.9	8.3
Texas A&M University	2	5	0.8	2.1	2.5	8.3
Southwest Texas State Un.	1	3	0.4	1.2	1.2	5.0
Lamar	2	2	0.8	.8	2.5	3.3
Sam Houston	8	2	3.3	.8	9.9	3.3
Texas Women's University		2		.8		3.3
Other	15	13	7.5	5.3	22.2	21.7
No Response	159	183	66.3	75.3		
47. Total number of four year institutions attended.						
One		55		93.2		
Two		4		6.8		
No Response		184				
48. Please rate the preparation you received for further education from COM.						
Excellent	34	16	14.2	6.6	40.0	25.8
Good	31	34	12.9	14.0	36.5	24.8
Fair	14	9	5.8	3.7	16.5	14.5
Poor	6	3	2.5	1.2	7.1	4.8
Very Poor						
No Response	155	181	64.6	74.5		
49. What is(was)your overall grade point average in upper level or senior college?						
Less than 1.0	3	1	1.2	.4	3.9	1.7
1.0 to 1.4	3	3	1.2	1.2	3.9	5.3
1.5 to 1.9	6	2	2.5	.8	7.8	3.5
2.0 to 2.4	9	7	3.8	2.9	11.7	12.3
2.5 to 2.9	20	21	8.3	8.6	26.0	36.8
3.0 to 3.4	22	14	9.2	5.8	28.6	24.6
3.5 to 3.9	11	8	4.6	3.3	14.3	14.0
4.0	3	1	1.2	.4	3.9	1.7
No Response	163	186	67.9	76.5		

Questions	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
Of the following, list various difficulties some students experience in college. Please indicate the degree of difficulty you experienced in College of the Mainland.						
a) MEETING SCHOLASTIC REQUIREMENTS						
No difficulty	60	41	25.0	16.9	69.8	66.1
Little difficulty	18	16	7,5	6,6	20,9	25.8
Moderate difficulty	8	5	3.3	2.1	9.3	8.1
No Response	154	181	64.2	74.0		
b) MEETING STUDENT INTELLECTUAL COMPETITION						
No difficulty	60	40	25.0	16.5	70.6	63.5
Little difficulty	19	19	7.9	7.8	22.4	30.2
Moderate difficulty	6	4	2.5	1.6	7,1	6.3
No Response	155	180	64,6	74.1		
c) PASSING EXAMS AND TESTS						
No difficulty	47	34	19.6	14.0	54.6	53.1
Little difficulty	32	25	13.3	10,3	37.2	39.1
Moderate difficulty	7	5	2.9	2.1	8.2	7.8
No Response	154	179	64.2	73.7		
d) ESTABLISHING SATISFACTORY RELATIONSHIPS WITH OTHER STUDENTS						
No difficulty	69	42	28.8	17.3	81,2	66,7
Little difficulty	12	18	5.0	7.4	14,1	28.6
Moderate difficulty	4	2	1,7	.8	4.7	3.2
Extreme difficulty	0	1	0.0	,4	0,0	1.6
No Response	155	180	64.6	74,1		
e) ESTABLISHING SATISFACTORY INSTRUCTOR-STUDENT RELATIONSHIPS						
No Difficulty	64	45	26,7	18,5	74.4	71.4
Little difficulty	16	13	6,7	5.3	18,6	20,6
Moderate difficulty	6	5	2.5	2.1	7.0	7.9
No Response	154	180	64,2	74,1		
f) GETTING INVOLVED IN CAMPUS ACTIVITIES						
No difficulty	42	25	17,5	10,3	53,2	40.3
Little difficulty	20	21	8.3	8,6	25,3	33.9
Moderate difficulty	9	11	3.8	4.5	11.4	17.7
Extreme difficulty	8	5	3.3	2.1	10.1	8.1
No Response	161	181	67.1	74,5		
g) RECEIVING FREINDLINESS AND INDIVIDUAL ATTENTION FROM FACULTY						
No difficulty	65	45	27,1	18.5	75.6	71.4
Little difficulty	16	14	6,7	5.8	18.6	22.2
Moderate difficulty	4	3	1.7	1.2	4.6	4.8
Extreme difficulty	1	1	0,4	.4	1,2	1.6
No Response	154	180	64,2	74.1		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
h) GETTING GOOD QUALITY INSTRUCTION						
No difficulty	52	34	21,7	14.0	61,2	54.0
Little difficulty	21	23	8,8	9,5	24,7	36.5
Moderate difficulty	11	5	4,6	2,1	12,9	7.9
Extreme difficulty	1	1	0,4	.4	1,2	1.6
No Response	155	180	64,6	74.1		
i) OBTAINING PERSONAL COUNSELING						
No difficulty	58	35	24,2	14,4	69,9	57.4
Little difficulty	16	22	6,7	9.1	19.3	36.1
Moderate difficulty	9	4	3,8	1.6	10,8	6.6
No Response	157	182	65,4	74.9		
j) OBTAINING CAREER COUNSELING						
No difficulty	41	31	17,1	12,8	50,0	51,7
Little difficulty	22	22	9.2	29.1	26,8	36.7
Moderate difficulty	14	6	5,8	2.5	17.1	10.0
Extreme difficulty	5	1	2,1	.4	6,1	1.7
No Response	158	183	65,8	75.3		
k) OBTAINING ACADEMIC COUNSELING						
No difficulty	47	37	19,6	15.2	56,0	60,7
Little difficulty	28	18	11,7	7.4	33,3	29.5
Moderate difficulty	6	5	2,5	2.1	7,1	8,2
Extreme difficulty	3	1	1,2	.4	3,6	1.6
No Response	156	182	65.0	74.9		
l) TRANSPORTATION TO CAMPUS						
No difficulty	70	49	29.2	20.2	81.4	77.8
Little difficulty	11	9	4.6	3,7	12.8	14.3
Moderate difficulty	5	5	2.1	2.1	5,6	7.9
No Response	154	180	64.2	74,1		
List various difficulties you experienced in senior college or university.						
a) MEETING SCHOLASTIC REQUIREMENTS						
No difficulty	34	17	14,2	7.0	40.5	27.0
Little difficulty	25	22	10,4	9.1	29,8	34.9
Moderate difficulty	20	23	8,3	9.5	23,8	36.5
Extreme difficulty	5	1	2,1	.4	6,0	1.6
No Response	156	180	65,0	74.1		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those Who Responded '72	Percent of those Who Responded '73
b) MEETING STUDENT INTELLECTUAL COMPETITION						
No difficulty	29	19	12.1	7.8	34.9	30.2
Little difficulty	28	23	11.7	9.5	33.7	36.5
Moderate difficulty	23	19	9.6	7.8	27.7	30.2
Extreme difficulty	3	2	1.2	.8	3.6	3.2
No Response	157	180	65.4	74.1		
c) PASSING EXAMS AND TESTS						
No difficulty	25	11	10.4	4.5	30.1	17.5
Little difficulty	29	18	12.1	7.4	34.9	28.6
Moderate difficulty	24	30	10.0	12.3	28.9	47.6
Extreme difficulty	5	4	2.1	1.6	6.0	6.3
No Response	157	180	65.4	74.1		
d) ESTABLISHING SATISFACTORY RELATIONSHIPS WITH OTHER STUDENTS						
No difficulty	52	35	21.7	14.4	62.6	55.6
Little difficulty	19	22	7.9	9.1	22.9	34.9
Moderate difficulty	6	5	2.5	2.1	7.2	7.9
Extreme difficulty	6	1	2.5	.4	7.2	1.6
No Response	157	180	65.4	74.1		
e) ESTABLISHING SATISFACTORY INSTRUCTOR-STUDENT RELATIONSHIPS						
No difficulty	34	23	14.2	9.5	40.5	36.5
Little difficulty	21	17	8.8	7.0	25.0	27.0
Moderate difficulty	20	21	3.3	8.6	23.8	33.3
Extreme difficulty	9	2	3.8	.8	10.7	3.2
No Response	156	180	65.0	74.1		
f) GETTING INVOLVED IN CAMPUS ACTIVITES						
No difficulty	33	23	13.8	9.5	40.7	38.3
Little difficulty	16	16	6.7	6.6	19.8	26.7
Moderate difficulty	15	13	6.2	5.3	18.5	21.7
Extreme difficulty	17	8	7.1	3.3	21.0	13.3
No Response	159	183	66.2	75.3		
g) RECEIVING FRIENDLINESS AND INDIVIDUAL ATTENTION FROM FACULTY						
No difficulty	33	18	13.8	7.4	39.8	28.6
Little difficulty	18	17	7.5	7.0	21.7	27.0
Moderate difficulty	21	20	8.8	8.2	25.3	31.7
Extreme difficulty	11	8	4.6	3.3	13.2	12.7
No Response	157	180	65.4	74.1		

Question	Number '72	Number '73	Percent of Total '72	Percent of Total '73	Percent of those who responded '72	Percent of those who responded '73
h) GETTING GOOD QUALITY INSTRUCTION						
No difficulty	40	24	16.7	9.9	48.2	38.1
Little difficulty	30	29	12.5	11.9	36.1	46.0
Moderate difficulty	10	6	4.2	2.5	12.0	9.5
Extreme difficulty	3	4	1.2	1.6	3.6	6.3
No Response	157	180	65.4	74.1		
i) OBTAINING PERSONAL COUNSELING						
No difficulty	39	23	16.2	9.5	48.2	36.5
Little difficulty	15	21	6.2	8.6	18.5	33.3
Moderate difficulty	14	16	5.8	6.6	17.3	25.4
Extreme difficulty	13	3	5.4	1.2	16.0	4.8
No Response	159	180	66.2	74.1		
j) OBTAINING CAREER COUNSELING						
No difficulty	37	22	15.4	9.1	45.7	34.9
Little difficulty	19	22	7.9	9.1	23.5	34.9
Moderate difficulty	15	15	6.2	6.2	18.5	23.8
Extreme difficulty	10	4	4.2	1.6	12.4	6.3
No Response	159	180	66.2	74.1		
k) OBTAINING ACADEMIC COUNSELING						
No difficulty	38	25	15.8	10.3	46.9	39.7
Little difficulty	24	22	10.0	9.1	29.6	34.9
Moderate difficulty	10	13	4.2	5.3	12.4	20.6
Extreme difficulty	9	3	3.8	1.2	11.1	4.8
No Response	159	180	66.2	74.1		
l) TRANSPORTATION TO CAMPUS						
No difficulty	55	35	22.9	14.4	66.3	56.5
Little difficulty	12	14	5.0	5.8	14.5	22.6
Moderate difficulty	11	8	4.0	3.3	13.2	12.9
Extreme difficulty	5	5	2.1	2.1	6.0	8.1
No Response	157	181	65.4	74.5		

APPENDIX I

then

$$(\bar{y} - \bar{Y}) = [h_1W_1 + h_2W_2]^{-1}[h_1W_1(\bar{y}_1 - W_1\bar{Y}_1) - W_1W_2(h_2\bar{Y}_1 + h_1\bar{Y}_2) + h_2W_2(\bar{y}_2 - W_2\bar{Y}_2)] \quad (3)$$

and if we assume $E(\bar{y}_i) = \bar{Y}_i$, we find

$$E(\bar{y} - \bar{Y}) = W_1W_2[h_1W_1 + h_2W_2]^{-1}(h_1 - h_2)(\bar{Y}_1 - \bar{Y}_2) \quad (4)$$

In order to use equation (4) the usual assumption that the subgroup means $\bar{y}_1$ and $\bar{y}_2$ are unbiased estimates of $\bar{Y}_1$ and $\bar{Y}_2$ is made.[3] In order to make equation (4) more easily usable for making weighting decisions, it can be structured in the following manner:

measure.

What criteria can the researcher use for deciding whether and how to weight for nonresponse? If one starts with the total mean

$$\bar{Y} = \bar{W}_1\bar{Y}_1 + \bar{W}_2\bar{Y}_2 \quad (1)$$

and the sample mean

$$\bar{y} = [h_1W_1/(h_1W_1 + h_2W_2)]\bar{y}_1 + [h_2W_2/(h_1W_1 + h_2W_2)]\bar{y}_2 \quad (2)$$

where:

$\bar{y}$ is the sample mean
$\bar{y}_1$ is the sample mean of subgroup 1
$\bar{y}_2$ is the sample mean of subgroup 2
W_1 is the proportion of the population accounted for by subgroup 1
W_2 is the proportion of the population accounted for by subgroup 2
h_1 is the response rate of subgroup 1
h_2 is the response rate of subgroup 2
$\bar{Y}_1$ is the population mean of subgroup 1
$\bar{Y}_2$ is the population mean of subgroup 2

TABLE 1

$E(\bar{y} - \bar{Y}) = \Omega(\bar{Y}_1 - \bar{Y}_2)$

VALUE OF OMEGA FOR TWO SUBGROUPS, EACH CONTAINING 50 PER CENT OF THE POPULATION

Response Rate of Subgroup 2 (50%)	*Response Rate of Subgroup 1 (50%)*									
	.1	*.2*	*.3*	*.4*	*.5*	*.6*	*.7*	*.8*	*.9*	*1.0*
.1	0	.167	.250	.300	.333	.357	.375	.389	.400	.409
.2	−.167	0	.100	.167	.214	.250	.278	.300	.318	.333
.3	−.250	−.100	0	.071	.125	.167	.200	.227	.250	.269
.4	−.300	−.167	−.071	0	.056	.100	.136	.167	.192	.214
.5	−.333	−.214	−.125	−.056	0	.045	.083	.115	.143	.167
.6	−.357	−.250	−.167	−.100	−.045	0	.038	.071	.100	.125
.7	−.375	−.278	−.200	−.136	−.083	−.038	0	.033	.063	.088
.8	−.389	−.300	−.227	−.167	−.115	−.071	−.033	0	.029	.056
.9	−.400	−.318	−.250	−.192	−.143	−.100	−.063	−.029	0	.026
1.0	−.409	−.333	−.269	−.214	−.167	−.125	−.088	−.056	−.026	0

TABLE 2

$E(\bar{y} - \bar{Y}) = \Omega(\bar{Y}_1 - \bar{Y}_2)$

VALUE OF OMEGA FOR TWO SUBGROUPS CONTAINING 75 AND 25 PER CENT OF THE POPULATION

Response Rate of Subgroup 2 (25%)	*Response Rate of Subgroup 1 (75%)*									
	.1	*.2*	*.3*	*.4*	*.5*	*.6*	*.7*	*.8*	*.9*	*1.0*
.1	0	.107	.150	.173	.188	.197	.203	.210	.214	.218
.2	−.150	0	.068	.107	.132	.150	.163	.173	.181	.188
.3	−.250	−.083	0	.050	.083	.107	.125	.139	.150	.159
.4	−.321	−.150	−.058	0	.039	.068	.090	.107	.121	.132
.5	−.375	−.205	−.107	−.044	0	.033	.058	.078	.094	.104
.6	−.417	−.250	−.150	−.083	−.036	0	.028	.050	.068	.083
.7	−.450	−.288	−.188	−.118	−.068	−.030	0	.024	.044	.061
.8	−.477	−.321	−.221	−.150	−.098	−.058	−.026	0	.021	.039
.9	−.500	−.350	−.250	−.179	−.125	−.083	−.050	−.023	0	.019
1.0	−.519	−.375	−.276	−.205	−.150	−.107	−.073	−.044	−.020	0

TABLE 3

$E(\bar{y} - \bar{Y}) = \Omega(\bar{Y}_1 - \bar{Y}_2)$

VALUE OF OMEGA FOR TWO SUBGROUPS CONTAINING 90 AND 10 PER CENT OF THE POPULATION

Response Rate of Subgroup 2 (10%)	*Response Rate of Subgroup 1 (90%)*									
	.1	*.2*	*.3*	*.4*	*.5*	*.6*	*.7*	*.8*	*.9*	*1.0*
.1	0	.047	.064	.073	.078	.082	.084	.086	.088	.089
.2	−.082	0	.031	.047	.057	.064	.069	.073	.076	.780
.3	−.150	−.043	0	.023	.038	.047	.055	.060	.064	.068
.4	−.208	−.082	−.029	0	.018	.031	.040	.047	.053	.057
.5	−.257	−.117	−.056	−.022	0	.015	.020	.035	.042	.047
.6	−.300	−.150	−.082	−.043	−.018	0	.013	.023	.031	.038
.7	−.338	−.180	−.106	−.063	−.035	−.015	0	.011	.202	.028
.8	−.371	−.208	−.129	−.082	−.051	−.029	−.013	0	.010	.018
.9	−.400	−.233	−.150	−.100	−.067	−.043	−.025	−.011	0	.009
1.0	−.426	−.257	−.170	−.117	−.082	−.056	−.037	−.022	−.101	0

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(MANDELL, 1974, 248-252)